

THE COMMONWEALTH OF MASSACHUSETTS

R E P O R T

OF THE

Metropolitan Transit Recess Commission



APPOINTED UNDER CHAPTER 56 OF THE RESOLVES OF 1943
TO INVESTIGATE AND STUDY RELATIVE TO RAPID TRANSIT
IN THE BOSTON METROPOLITAN AREA.

THE COMMISSION WAS CONTINUED AND ENLARGED
UNDER CHAPTER 85 OF THE RESOLVES OF 1945



APRIL 1, 1947



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THE COMMONWEALTH OF
MASSACHUSETTS

The Metropolitan Transit Recess Commission

To the General Court of Massachusetts:

Boston, April 1, 1947

Gentlemen:

In accordance with the provisions of Chapter 85 of the Resolves of 1945, I have the honor to transmit herewith the report of the Metropolitan Transit Recess Commission.

Respectfully,

ARTHUR W. COOLIDGE

Chairman

LEGISLATIVE RESOLVE, 1945

(CHAPTER 85)

RESOLVE REVIVING AND CONTINUING THE SPECIAL COMMISSION ESTABLISHED TO MAKE AN INVESTIGA- TION AND STUDY RELATIVE TO RAPID TRANSIT IN THE BOSTON METROPOLITAN AREA AND INCREASING THE MEMBERSHIP OF SAID COMMISSION

RESOLVED, That the unpaid special commission, established by chapter fifty-six of the resolves of nineteen hundred and forty-three, is hereby revived and continued for the purpose of continuing its investigation and study of the subject of rapid transit in the Boston metropolitan area and supplementary and feeder services in connection therewith. The membership of said commission is hereby increased by the addition of five members, of whom one shall be a member of the senate to be designated by the president thereof, and four shall be members of the house of representatives to be designated by the speaker thereof. For the purpose of such investigation and study, said commission may employ necessary engineering, legal and other assistance, and shall prepare a supplementary comprehensive plan or plans showing the rapid transit routes and the supplementary and feeder services in connection therewith which it recommends, the district or districts which it recommends to be served, and such statistical information and data as it may deem to be of assistance to the general court in the consideration of any legislation recommended. Said commission may utilize the services of the department of public utilities, the Boston transit department, the state planning board, the state department of public works and any engineering or other departments, suitably organized to prepare plans or other information, of any city or town within the district or districts which it expects will be served by the proposed rapid transit system, and out of the sum which it is hereby authorized to expend may make funds available to said commission, board and departments, or any of them. Said commission shall hold public hearings throughout the district or districts which it expects will be served by such proposed system. Said commission shall make its report to the general court by filing the same with the clerk of the house of representatives on or before December first in the year nineteen hundred and forty-six, accompanied by such plans, statistics and drafts of legislation as it may deem necessary or appropriate. For the purposes of this resolve, said commission may expend an amount not exceeding twenty thousand dollars, which shall be apportioned equitably among the cities and towns benefited when a rapid transit system is established pursuant to said report, and shall be paid to the commonwealth, according to the method of apportionment to be included in the recommendations of said commission.

Approved July 25, 1945.

The time for filing a final report was extended.

FOREWORD — BOSTON ELEVATED RAILWAY

The financial difficulty of the Elevated which has been the subject of so much public concern in recent weeks simply brings to the fore a situation which will continue as a costly public problem unless the fundamental difficulty is recognized and courageously solved.

Our efforts and investigations make it perfectly clear that rapid transit must be extended out to the areas of population which have developed in the last twenty years. Otherwise, the population will continue to use the buses and automobiles, the results of which will be the worsening of the already intolerable traffic conditions and increasing deficits for the Elevated.

Substantial increases in fares do not, in our judgment, offer the solution. A modern system of rapid transit such as we have recommended will go to the root of the problem and provide transportation in the metropolitan area at reasonable rates as well as solve the traffic problem. People living in the suburbs of Boston would find that rapid transit would give them faster, cheaper and more comfortable service than they can expect to get from their automobiles or from buses. They will, therefore, patronize the system in increasing numbers, and therein lies the solution of the matter of deficits which have plagued the metropolitan communities for so many years.

There are some misconceptions which seem to prevail which must be cleared up if we are to make any progress at all. Only those cities and towns which will be served by the rapid transit will assume any obligation whatever toward it.

The annual dividend of five dollars a share on the common stock of the Elevated which is guaranteed from the public treasury is a contractual matter by express provision of the Public Control Act and by interpretation of our courts of last resort. It cannot be abrogated except with the consent of the stockholders. This dividend can only be eliminated by the completion of public ownership in accordance with the option which the Commonwealth possesses under the Public Control Act. The approximately \$20,000,000 necessary to complete public ownership can be raised by the Boston Metropolitan District by borrowing that sum at approximately two per cent so that the interest will be approximately \$400,000 a year, a saving of about \$800,000 on this item alone. The matter of the dividends is only one item which is now reflected in the deficits. There are others which we have explained in this and our previous report.

The advisability of completing public ownership cannot be lightly or emotionally dismissed. The public already have a tremendous investment in local rapid transit which, in addition to the millions of dollars which have been spent on deficits up to the present time, represents approximately \$76,000,000 invested in bonds of the Elevated and approximately \$70,000,000 invested in subways. That investment must be protected. Temporary expedients will not suffice.

We cannot too strongly urge those in authority who are responsible for a solution of the transportation problem of the metropolitan area to set up at once the Metropolitan Transit Authority which we have recommended; that public ownership of the Boston Elevated Railway be completed now and that the Authority be directed to proceed to establish the system of rapid transit along the lines which we have offered as a guide. Unless such action is taken we predict the inevitable and incessant repetition of situations such as that which presently confronts the Elevated and the community.

The planning has been done. The time for action has now arrived. The answer is evident. We urge that the Metropolitan Transit Authority be established at once and authorized to proceed with the execution of the plans.

In Chapter XVII of this report (commencing on p. 48) and in Chapter 2 (p. 14) and Chapter 15 (p. 91) of our 1945 report the subject of the Boston Elevated Railway has been fully considered.



LEGEND
SOLID LINES INDICATE PRESENT BOSTON ELIMATED RAPID TRANSIT
DASH LINES INDICATE PROPOSED EXTENSIONS



COMMONWEALTH OF MASSACHUSETTS
METROPOLITAN TRANSIT RECESS COMMISSION
(Created under Chapter 34A of the Statutes of 1943)
PRESENT AND PROPOSED EXTENSIONS OF RAPID TRANSIT
IN
SUBURBAN BOSTON

SCALE IN MILES

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CLYDE A. CANN, Consulting Engineer
GABRIEL W. GOSL, Counsel
APRIL, 1947

REPORT OF THE LEGISLATIVE COMMISSION ON RAPID TRANSIT---1947

CHAPTER I

INTRODUCTION

In accordance with the provisions of Chapter 56 of the Resolves of 1943, this Commission, in April of 1945, made a comprehensive report to the Legislature which included a detailed analysis of eight major rapid transit routes or extensions within the Boston metropolitan area. This report does not duplicate the previous report, but supplements it. Since the report of April, 1945, our further studies disclose that certain changes and additions should be made to the rapid transit system as previously recommended. This report deals with such changes. It also deals with the subjects relating to transportation affected by Chapters 54, 72 and 73 of the Resolves of 1946 which were referred to this Commission.

When the previous report of 1945 was made to the Legislature ten complete sets of plans for the routes recommended were filed with the Clerk of the House of Representatives. With this supplementary report there have been filed seven complete sets of plans covering the major proposals contained in this report.

PUBLIC HEARINGS

As a part of its duties, under Chapter 85 of the Resolves of 1945, this Commission was ordered to hold public hearings throughout the districts affected by the proposed system. Accordingly, public hearings were held in the cities and towns of Woburn, Arlington, Lexington, Medford, Winchester, Newton, Revere, Braintree, Quincy, Weymouth, Whitman, Charlestown, Hyde Park, South End (Boston) and Dedham.

At these hearings, expressions of opinions from public officials, as well as from the general public, have provided the Commission with much useful information and advice. These public hearings, to a large extent, explain the reasons for many modifications of the routes described in the first report.

PURPOSE OF REPORT

This report together with that previously filed are offered as a specific and comprehensive plan for the guidance of the Legislature and the proposed rapid transit authority in the establishment of a first class metropolitan transit system so urgently needed. Final decisions in all respects including routes must ultimately be approved by the proposed rapid transit authority and the Legislature.

WHAT IS PROPOSED

The system which we have designed pursuant to the mandate of the Legislature will extend rapid transit lines out to the suburban areas of population and will provide adequately for the rapid movement of commuters to and from Boston during the peak hours, before and after work, as well as during the remainder of the day. Speed, comfort and economy are to be achieved by the use of modern electric trains operating over available tracks of the railroads. Connections between the present rapid transit facilities and the railroad lines can be achieved relatively easily. The use of existing subways and railroad right of ways has virtually eliminated damages for the taking of land.

RAILROAD SERVICE

The losses which the railroads have experienced in the operation of commuter service in the past already give promise of increasing in the future. Railroad equipment is too cumbersome and costly for short haul commuter service. The railroads cannot undertake to operate such a system of rapid transit as that which our reports envisage. They are not in a position to achieve the integration and unification which only a transit system under public ownership and operation can bring about in the Boston area.

RAPID TRANSIT'S PART IN THE SOLUTION OF THE TRAFFIC PROBLEM

We assert that the rapid transit system which is recommended will effect a substantial solution of the traffic problem in Boston and the metropolitan area. The reason for the assertion is that rapid transit will offer the commuter faster, more frequent, safer, cheaper and more comfortable service, than motor vehicles. In short, while motor vehicles cannot be effectively legislated off the streets, the type of rapid transit service which is offered will aid substantially in bringing about the desired result.

SUPER HIGHWAYS

We have attempted to make it plain that multiple deck or super highways when properly planned have a useful function in the transportation picture. They provide for the segregation of local traffic from long distance trips through the city and offer convenient and safe facilities. However, as an exclusive means of moving large numbers of people to and from congested business areas for daily commuter travel or as a substitute for rapid transit, the express highways have almost fatal limitations. Super highways *into* the center of a city succeed only in depositing increasing numbers of vehicles at the center of the city with consequent congestion. On the other hand, the entire rapid transit plan which we have proposed can be built and established for less than the cost of a single such highway. Rapid transit produces direct revenue from its operation, avoids congestion at the center of the city and accommodates increasing numbers of patrons by the simple expedient of increasing the number of trains operating over their own right of ways. The proposed system will naturally contribute to the rehabilitation of Boston as a great business and commercial center.



EFFECT ON RESIDENTIAL SUBURBS

The reluctance of some people in some of the suburban residential communities to approve of rapid transit is due to a misapprehension of the facts. Good transportation has never harmed a community, but has always benefited it. The residential character of suburban communities can be maintained by enactment and enforcement of local zoning laws, which in fact many communities have already done.

PROTECTION OF PERSONNEL

Section 15 of the proposed legislation appended to this report provides for the complete protection by the proposed rapid transit authority of personnel who are presently employed by other carriers and who become employed by the authority. No such persons under the proposals would be lowered in rank or compensation or lose any employment rights of any kind because of the change of employers.

LEGISLATION

There is appended to this report a draft of legislation to establish and operate the proposed system of rapid transit.

APPRECIATION

We take this opportunity to extend thanks and grateful appreciation for the assistance given the Commission by the State Planning Board, the Boston Transit Department, Mr. Harry W. Dorigan acting for the trustees of the New York, New Haven & Hartford Railroad, Mr. Howard Fritch and Mr. Laurence Richardson of the Boston and Maine Railroad, Mr. E. K. Mentzer, Special Engineer of the Boston & Albany Railroad, Mr. Edward Dana, President and General Manager and Mr. Willis Downey, Vice President and General Counsel of the Boston Elevated Railway, Mr. A. J. Boardman, Vice President and General Manager of the Eastern Massachusetts Street Railway Company, the Engineering staff of the Department of Public Utilities, and other State Departments and transportation agencies. We wish also to thank the General Electric Company for its assistance and help offered through Mr. E. S. Gunn of the Transportation Division. The Commission is indebted to the American Car & Foundry Company for its valued service in connection with furnishing data relative to new equipment, through its representative Mr. A. W. Holbrook. We wish also to thank the officials of the public transportation agencies in the cities of New York, Chicago, Detroit and Toronto, Canada, and to the Montreal Tramways Company for their cooperation in connection with our study of transportation facilities in these cities.

CHAPTER II

COSTS AND FARES

It should be borne in mind in considering construction costs that the routes originally recommended by the Commission in its 1945 report were based on prewar 1941 prices. As construction costs fluctuate so rapidly, revised estimates must be made on the basis of costs at the time construction is actually contemplated. Estimates in effect at the present time or any interim period are of little value.

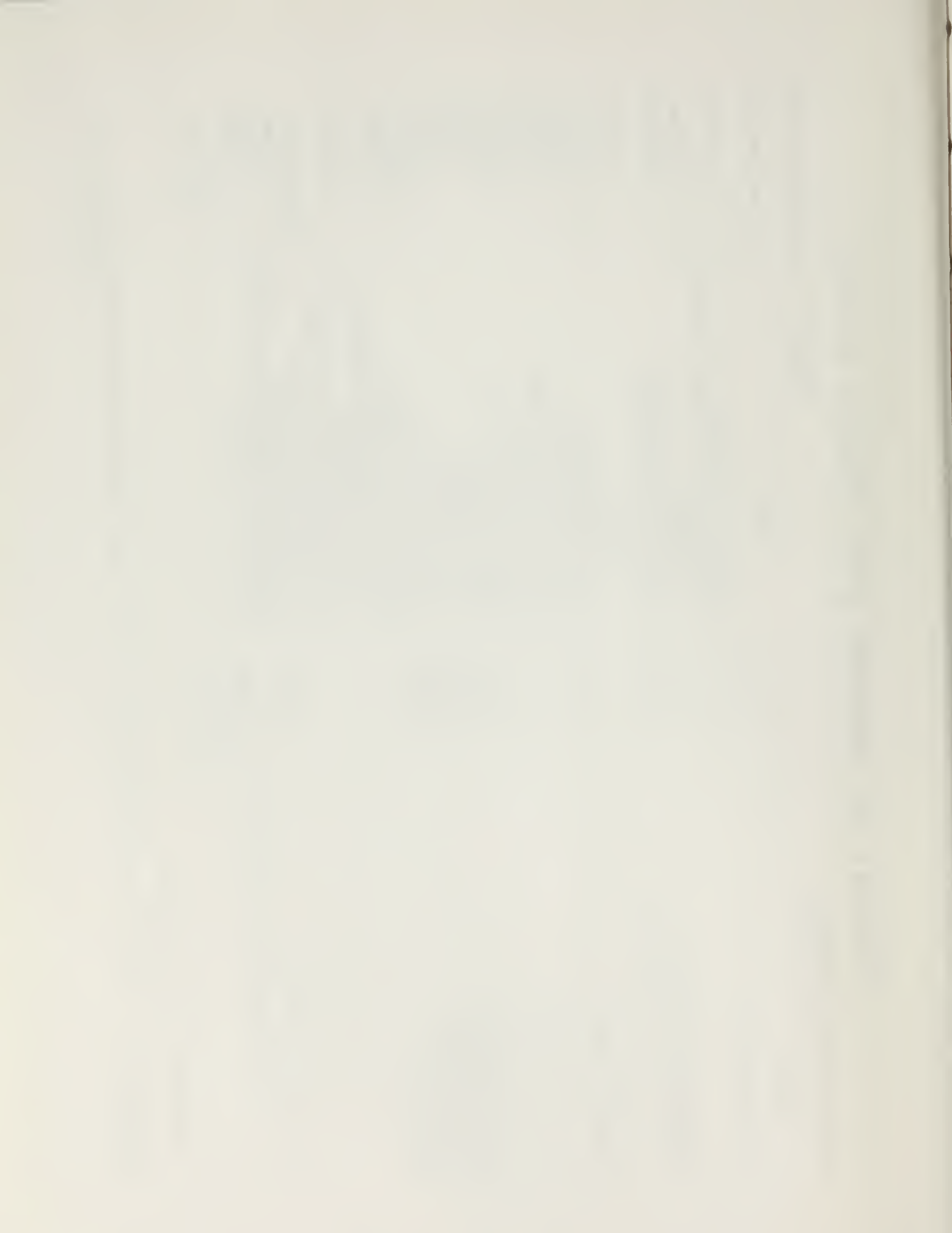
SUMMARY OF PROPOSED RAPID TRANSIT ROUTES

PROPOSALS IN 1945 REPORT

ROUTE	CONSTRUCTION COST	ROUTE	CONSTRUCTION COST
Savin Hill-Braintree	\$ 3,698,640	Savin Hill-So. Braintree Possible extension to Cohasset, Whitman & Brockton	\$ 3,906,600
Harvard Sq.-E. Watertown E. Watertown to Arlington Hgts.	3,612,000 2,032,380	Harvard Sq.-W. Cambridge Loop from W. Cambridge to Waltham	5,454,000 9,254,400*
Forest Hills-Dedham	4,119,360	Lexington Forest Hills-E. Dedham Forest Hills-Readingville	1,161,000 1,237,200 2,641,200
Salem Sq.-Reading	6,501,360	Loop-Readingville to E. Dedham Sullivan Sq.-Reading Medford Jct. to Medford Sq.	1,148,160 191,880 6,501,360
Kenmore-Riverside Cook St.-Needham Jct.	1,544,250 297,600	Kenmore-Riverside Cook St.-Birds Hill	1,145,400 1,544,250
Tremont-Riverside Lechmere-Woburn Maverick-Lynn	1,740,960 3,336,600 6,708,616	Tremont-Riverside Lechmere-No. Woburn Orient Hgts.-Point of Pines Wash. St. Tunnel to Dudley St. Dudley St. to Forest Hills via Subway & N.Y.N.H. & H.R.R.	423,600 1,740,960 3,627,000 1,613,160 14,560,000*
Subway Park St.-Scollay Sq.	3,600,000	Alternate Route Forest Hills to Wash. St. Tunnel via N.Y.N.H. & H.	7,080,000*
Changes Present Subway Park St. to Boylston St.	2,600,000	Subway Park St.-Scollay Sq. Changes Present Subway Park St. to Boylston St. Haymarket to Sullivan Sq.	(not estimated) 3,600,000* 2,600,000* 3,944,880*
	<hr/> \$39,791,766		<hr/> \$73,375,050

* Includes cost of subway construction.

The above figures are based on 1941 prices and are subject to increase. Revised estimates must be made when construction is contemplated.



CHAPTER III

SUMMARY OF RAPID TRANSIT ROUTES CONTAINED IN THE 1945 REPORT WITH PROPOSED MODIFICATIONS AND CHANGES

Certain rapid transit extensions were recommended by this Commission in its previous report in 1945. Further study and investigation by the Commission and the knowledge gained from public hearings have inspired certain modifications and changes which we consider to be improvements of the plans as originally submitted, although in their essentials the original plans are largely the same and have proved to be sound. Briefly summarized, descriptions of the original routes together with suggested changes follow:—

ORIGINAL PROPOSAL FOR BRAINTREE-SAVIN HILL ROUTE

The original route as proposed to Braintree was an extension of the Cambridge-Dorchester Subway. From a point near Savin Hill the proposal was to join with the tracks of the Old Colony Section, New Haven Railroad, and by way of Atlantic, Norfolk Downs, Wollaston, Quincy and Quincy Adams to a terminal at Braintree. The right of way was to be acquired from the New Haven Railroad at nominal value. Provision was made for freight service in this area through a joint use with the Railroad of certain of the tracks, or by parallel tracks wherever necessary.

PROPOSED CHANGES IN BRAINTREE ROUTE

After public hearings were held at Braintree and at Weymouth, and upon further consideration it was evident that because of the necessity for providing bus feeder service to this terminal at which congestion would result in the center of the Town of Braintree, it was suggested that South Braintree offered better facilities for a terminal. By extending the line to this point congestion would be avoided. The running time from So. Braintree to Park St. would be approximately 27 minutes, without transfer. The whole subject of continuing rapid transit to the communities of the South Shore below South Braintree will be discussed elsewhere in this report in Chapter VII entitled, "Further Extensions of Proposed Rapid Transit Service Beyond Braintree."

ORIGINAL PROPOSAL FOR HARVARD SQUARE-ARLINGTON HEIGHTS ROUTE

The plans for this route included extending the present Cambridge subway under Mount Auburn Street to a point immediately West of Memorial Drive at the Charles River; thence, emerging by an incline on public land under the control of the Metropolitan District Commission. The route was to proceed on the surface of the ground, parallel with the Charles River to a location near Arlington Street in East Watertown, where the Cambridge subway trains would terminate. The operation of the extension to Arlington from the terminal at East Watertown was to be by way of the tracks of the Watertown Branch of the Boston & Maine Railroad to a place near the Concord Turnpike Bridge. The rapid transit trains would then proceed on the tracks of the Lexington Branch to Arlington Heights. The stations proposed on this route were East Watertown, Mount Auburn, Lake Street, Arlington, Brattle and Arlington Heights. In making that recommendation, economy was the important motive as a large part of the route was to be over public land which would have saved the expenditure of large sums to acquire a right of way.

Shortly after that recommendation was made, the Metropolitan District Commission indicated



its intention to extend Memorial Drive along the River. The land already being dedicated to this public use and the work started, was therefore no longer available for a rapid transit extension. Another location had to be found. A new study became necessary.

PROPOSED CHANGES IN ARLINGTON HEIGHTS ROUTE

It is recommended that the Cambridge subway be extended from Harvard Square under Massachusetts Avenue to a point near Porter Square and there the subway trains be brought to the surface on the tracks of the Fitchburg Division of the Boston & Maine Railroad. Thence, the route would follow the right of way of this railroad, passing under the Alewife Brook Parkway Bridge, to a terminal located on the vacant land owned by the railroad between the Concord Turnpike and the Alewife Brook Parkway. There the Cambridge Subway trains would terminate.

There are other possible routes through Cambridge but they all involve more subway construction than is required for the route recommended. The Massachusetts Avenue route is ideal, for it provides rapid transit to the center of Cambridge, North Cambridge and West Somerville.

The terminal facilities would include not only transfer for passengers arriving from Waltham, Belmont and Lexington via the proposed rapid transit routes from those areas, but would also provide for a bus terminal and a large parking space where many passengers who now use their automobiles could leave them and board the rapid transit system. From this transfer station, of modern design, high speed electric trains designed to operate at low level platforms would run to Arlington Heights and Lexington by way of the tracks of the Lexington Branch of the Boston & Maine Railroad.

EXTENSION TO LEXINGTON

Originally it was proposed to terminate this line at Arlington Heights, but public hearings in Arlington and Lexington have made it clear that service should be extended to serve the Town of Lexington.

IMPROVEMENT AT HARVARD SQUARE

Certain station changes at Harvard Square become necessary because of the extension of the subway under Massachusetts Avenue. A new station is proposed on Massachusetts Avenue with its entrance near the present street car incline. Under this proposal all the street car tracks would be removed from Massachusetts Avenue and there would be no need for street cars to enter the subway by means of the present incline. Local buses would operate from parts of Cambridge and would discharge their passengers at this new station. Under this new proposal passengers from Watertown would be served by a bus line along Mount Auburn Street to the new station.

The removal of public transit vehicles from the center of Harvard Square will eliminate congestion and result in safety for pedestrians.

STATION AT PORTER SQUARE

An underground station is proposed at Porter Square with facilities on the surface to permit buses from West Somerville and North Cambridge to discharge passengers who would board the rapid transit there.

IMPROVEMENT OF MASSACHUSETTS AVENUE

The construction of a subway under Massachusetts Avenue will permit the removal of all present surface tracks and traffic islands and will restore the full width of Massachusetts Avenue to the use of automobile traffic. This improvement alone would justify the choice of this proposed route.

ECONOMY OF OPERATION

Service by subway trains and rapid transit to Lexington as recommended will provide better transportation at lower cost than the present slow and inadequate surface car operation.

ORIGINAL PROPOSAL FOR FOREST HILLS-DEDHAM ROUTE

The plans for this route proposed an extension of the present Everett-Forest Hills line by way of the tracks of the New Haven Railroad, West Roxbury Branch, to Dedham. All of the proposed stations on the line would require high level platforms to permit the same kind of operation as now exists in the Washington Street Tunnel. From the present elevated station at Forest Hills, the new route would pass by way of an underpass under the tracks of the New Haven Railroad (Boston & Providence) and thence by an incline to the present grade of the tracks of the West Roxbury Branch. The proposed stations on this line would be at approximately the same locations as the present railroad stations and would be Roslindale, Bellevue, Highlands, West Roxbury and Dedham. This extension would provide the people of the West Roxbury area with a more frequent service which would avoid a transfer at Forest Hills and would also avoid the obstacles incidental to surface car operation.

PROPOSED CHANGES IN FOREST HILLS-DEDHAM ROUTE

In further considering this route we find that suitable land is available at East Dedham for terminal facilities and a parking area. Consequently it is proposed that the route be extended to East Dedham. The additional stations would be Stonehaven and East Dedham.

FURTHER POSSIBLE CHANGES IN FOREST HILLS-DEDHAM ROUTE

Chapter XV of this report describes the proposal for the elimination of the elevated structures between the end of the Washington Street Tunnel and Forest Hills. We have pointed out that while these elevated structures are undesirable, they are nevertheless perfectly serviceable as a part of any overall rapid transit program. If these elevated structures are removed, however, the route from Boston to Dedham as originally proposed would be modified in accordance with the description given in Chapter XV.

ORIGINAL PROPOSAL FOR SULLIVAN SQUARE-READING ROUTE

The original plan was to extend rapid transit from the present terminal at Sullivan Square to Reading Highlands. The route would occupy a portion of the right of way of the Boston & Maine Railroad, Western Division. Two new tracks would be required with the rapid transit system occupying the two center tracks. All of the proposed stations on the line would have high level platforms to permit the same kind of rapid transit operation as now exists in the present Washington Street tunnel. Overpasses to clear the freight tracks would be provided at Malden, Wakefield and Reading. Terminal yard facilities would be provided at Oak Grove and at Reading Highlands.



This extension is the counterpart of that to Dedham. The stations on the proposed line would remain substantially in the same locations as at present. They would be Wellington, Edgeworth, Malden, Wyoming, Melrose, Melrose Highlands, Glenwood, Wakefield Junction, Wakefield and Reading. This proposed extension would serve large and important communities. Many persons now served by the Medford Branch as well as those in the northwest section of Medford in general would be conveyed to the stations on the proposed route by feeder bus service. There would be greater frequency of service to these communities by the proposed rapid transit operation than is presently available. Running time from Reading to downtown Boston would involve no changes and an elapsed time of thirty-three minutes.

All of the commuter service between Boston and Reading Highlands on the Boston & Maine Railroad is proposed to be discontinued. Commuters now using the Newburyport Branch would be brought to the new system by means of feeder buses.

A public hearing held in the City of Medford indicated a strong desire for rapid transit to be extended by way of the Medford Branch, which is discussed elsewhere in this report in Chapter V. If rapid transit is extended by way of the Medford Branch, undoubtedly some of the proposed stations on the Reading route might be eliminated.

ORIGINAL PROPOSAL FOR LECHMERE TO WOBURN ROUTE

A rapid transit extension from the viaduct near Lechmere Station is proposed to Woburn, a distance of approximately nine miles. The line would extend by way of the Boston & Maine right of way over the New Hampshire Division, occupy a portion of the present roadbed and utilize the existing stations. The type of car to be operated over this route would be the same as that which operates through the Tremont Street Subway with low level platforms. An overpass would be built from the Lechmere viaduct down to the Boston & Maine tracks and thence on the westerly side of the right of way to Somerville Junction. Another overpass would carry the rapid transit tracks over the inbound main track to the westerly side of the right of way from West Medford to Winchester. At Winchester Square it is proposed to depress the rapid transit tracks and pass under the Square. Both of these crossovers are necessary in order that the present freight and trunk line operation of the Railroad be maintained. This extension balances the route to Riverside over the main line and right of way of the Boston & Albany Railroad.

STATIONS

The stations on this line would be Prospect, Winter Hill, Somerville Junction, North Somerville, Tufts, Medford Hillside, West Medford, Wedgmere, Winchester, Cross Street, Woburn Highlands and Woburn. Storage tracks for extra trains and a loop are provided at West Medford and at Woburn, with yard and repair facilities at Woburn.

SERVICE

All commuter railroad service on the New Hampshire Division between Boston and Woburn would be discontinued in the event of this extension. Commuter service on the Woburn loop and Stoneham Branch would also be discontinued. Passengers from Stoneham and parts of Winchester would be brought to the proposed system by feeder buses. The Central Somerville area will also be afforded the advantages of rapid transit. The construction of this line would make possible the re-

removal of a considerable mileage of surface tracks from the existing highways. From Woburn to Park Street no transfers would be required. The running time would be approximately twenty-seven minutes. In general the service would be faster and more frequent than the present service.

PROPOSED CHANGES IN LECHMERE TO WOBURN ROUTE

Public hearings were held in various localities where the proposals were discussed. At the public hearing at Woburn evidence was presented that the line should be extended to serve the North Woburn area, adding approximately two miles to this route. This extension would offer service to over two hundred thousand riders annually who now use the steam railroad. The extension to North Woburn is recommended.

ORIGINAL PROPOSAL FOR TREMONT STREET SUBWAY TO RIVERSIDE VIA THE MAIN LINE, BOSTON & ALBANY RAILROAD

This extension calls for the utilization of the two southerly or local passenger tracks on the main line of the Boston & Albany Railroad as a rapid transit route connecting with the present Tremont Street Subway in the vicinity of Tremont Street near Castle Square. An overpass would be required near Brighton to give the Boston & Albany Railroad access to yards and tracks which it now possesses on the South side. Another overpass would be required at an intown point on the line in order that rapid transit can pass over the two northerly tracks where it would enter the Tremont Street Subway. The length of this proposal from Tremont Street Subway to Riverside is approximately ten miles. This is a counterpart of the proposed extension to Woburn.

STATIONS

The present railroad stations on the line would be retained insofar as possible. The type of trains to be operated on this route would be for low level platforms similar to those which operate in the Tremont Street Subway. The stations on the new route would be a new station in the vicinity of Tremont Street near Broadway, Trinity Place (Back Bay), Cottage Farm, Allston, Brighton, Faneuil, Newton, Newtonville, West Newton, Auburndale and Riverside. Terminal yard facilities are proposed at Riverside. The proposed service from Riverside to Park Street would not involve transfer. The total elapsed running time would be twenty-five minutes.

PROPOSED CHANGES IN TREMONT STREET SUBWAY TO RIVERSIDE ROUTE

Public hearings were held in this vicinity and there was no indication that any alterations or changes in the proposal were desired.

ORIGINAL PROPOSAL FOR KENMORE-RIVERSIDE-NEEDHAM JUNCTION ROUTE

This proposal utilizes the present Highland Branch of the Boston & Albany Railroad as a rapid transit extension to Riverside by way of Newton Highlands connecting with the present subway under Beacon Street at a point near Park Drive. A branch from Cook Street Junction over the tracks of the New Haven Railroad to Needham Junction would furnish service from Park Street to Needham via Newton Highlands in place of the present steam railroad service via Forest Hills and West Roxbury. This extension under present facilities would loop at Park Street. In the event of the con-

struction of a short length of new subway from Park Street to Scollay Square, thus affording a four track system, the trains on this extension would be enabled to continue to the North Station if this seems desirable. The length of the proposed route from Park Drive to Riverside is approximately ten miles. The type of train that is proposed over this extension would require low level platforms in order that they may operate through the Tremont Street Subway.

STATIONS

The present railroad stations would be retained with the addition of a new stop at Park Drive and would be Riverside, Woodland, Waban, Eliot, Newton Highlands, Newton Center, Chestnut Hill, Reservoir, Beaconsfield, Brookline Hills, Brookline, Longwood and Park Drive. The terminal facilities for this line will be at Riverside with a yard for storage and repairs.

NEEDHAM EXTENSION

The branch to Needham would take off at Cook Junction just west of Newton Highlands and run to Needham Junction. The stations on this branch would be Newton Upper Falls, Needham Heights, Needham and Needham Junction. The present steam railroad service now operated via Forest Hills would be discontinued. From Needham to Park Street no transfer would be involved and the elapsed time would be approximately twenty-eight minutes.

There are no proposed changes contemplated in the route to Riverside. After further consideration and an analysis of the potential passenger load it seems that the Needham route should be extended to Birds Hill. This further extension is recommended.

ORIGINAL PROPOSAL MAVERICK SQUARE-LYNN ROUTE

In its 1945 report the Commission proposed a rapid transit extension to Lynn. This extension was fully described and a complete set of plans has been filed.

PROPOSED CHANGES IN LYNN ROUTE

Subsequent to the filing of the 1945 report, the Legislature authorized the construction of a segment of the proposed route to Lynn from Maverick Square to Orient Heights. The sum of \$8,500,000 was appropriated to accomplish this project. The Boston Elevated Railway has indicated its intention to extend transportation service from the Orient Heights Terminal to Revere Beach by way of the abandoned right of way of the former Boston, Revere Beach and Lynn Railroad.

Rapid transit should be extended to Lynn to insure modern and frequent transportation service for the people of this community in the event of any abandonment or curtailment of their present steam service to Boston.

CHAPTER IV

EXTENSION OF RAPID TRANSIT TO BELMONT, WAVERLY AND WALTHAM

In our previous report this Commission did not provide for any extension of rapid transit to Waltham. To extend rapid transit by way of the Boston & Maine Railroad, Watertown Branch would necessitate a complete grade separation from the steam railroad tracks because of the need of these tracks for freight operations. To attempt to go to Waltham by means of a subway under Mount Auburn Street would result in excessive cost. Further study revealed that the Central Massachusetts Division of the Boston & Maine Railroad offers a feasible route over which to extend rapid transit to Waltham. The right of way is sufficiently wide to accommodate these tracks.

The proposed extension to Waltham would start at a point near the Weston line beyond Waltham Highlands and extend via the right of way of the Central Massachusetts Railroad through the Walthams, Waverly, Belmont to the proposed terminal as previously described in the route from Harvard Square to West Cambridge. The service to Waltham from the West Cambridge terminal would be in conjunction with the similar service proposed for Lexington, whereby the same trains could continue from Waltham to Lexington. Very little expense would be involved in station changes or for the acquisition of land. The trains would operate on a five minute headway in the peak hours and less frequently throughout the remainder of the day. The running time from Waltham Highlands to Harvard Square would be approximately twenty minutes. The freight service required by the communities along the route could be handled over a freight track parallel with the rapid transit tracks with crossovers wherever necessary. The rapid transit service as outlined above would permit the rerouting of much of the present bus service which now runs to Harvard Square. Much of this service would be curtailed and could terminate at West Cambridge.

CHAPTER V

PROPOSED RAPID TRANSIT EXTENSION BY WAY OF THE MEDFORD BRANCH FROM MEDFORD SQUARE

In our previous report it was pointed out that many people from Medford, particularly from the northwest and southwest sections, could be served by the proposed rapid transit route from Lechmere Square to Woburn and would board the rapid transit at West Medford, Medford Hillside and Tufts Stations. Those commuters living in the easterly section could be served by the Sullivan Square-Reading route from the proposed stations at Edgeworth and Wellington.

In the course of our public hearings throughout the district it became evident, especially at a hearing held in the City of Medford, that study should be given to providing the center of the City of Medford with rapid transit. The Commission recommends therefore an extension of rapid transit to Medford Square using the tracks of the Medford Branch of the Boston & Maine Railroad. This

branch would take off from the proposed Sullivan Square-Reading line at Medford Junction. The railroad branch is at present a single track, however, the right of way is wide enough to accommodate the restoration of a second track. The peak hour frequency of operation on the proposed route requires a double track. All of the freight service to and from Medford can be moved at night during the hours when the rapid transit system is not in operation. Gauntlet tracks would be laid at each station platform to permit the passing of freight cars along the line. At the three stations on the route the station platforms would have to be raised to permit the same kind of train that would operate on the Reading route and through the Washington Street Subway. The distance from Medford Junction on the Western route, Boston & Maine Railroad, to Medford Square is approximately one and three-quarter miles.

SERVICE

The present steam passenger service is very limited in frequency affording only three trains inbound and four trains outbound. The number of passengers carried is small. Approximately two hundred and thirty-five passengers use the service from the three stations of Medford, Park Street and Glenwood daily. The proposed rapid transit service in the peak hours, morning and night, would run at four and one-half minute intervals. Throughout the remainder of the day there would be approximately eight trips per hour. Most of the passengers who would use this service now use the Boston Elevated Railway System consequently this extension would bring little new revenue to the system. However, there would be a considerable saving in the operation of surface line transportation service now maintained by the Boston Elevated, which operations would be substantially reduced. The savings affected by the discontinuance of a large amount of this type of service may be expected to more than offset the cost of operating this branch and could well make it a profitable extension. Many passengers who now travel by bus and street car from the West Medford area to Sullivan Square would be served by the proposed rapid transit route far better than at present.

On the proposed route to Woburn there is a station at West Medford. Quite naturally some of the Medford people would board the rapid transit at West Medford. However, those from the south and east sections could be brought by feeder buses to Medford Square where they would board the rapid transit and achieve a considerable saving of time over present service to Boston.

On the present buses from West Medford to Sullivan Square counts of daily use indicate that inbound, approximately one hundred and fifty eight buses carry approximately forty-six hundred passengers and outbound, one hundred and fifty-nine buses carry approximately five thousand. On the present street cars which run through the Winter Hill area to Sullivan Square, inbound two hundred and eighteen cars carry approximately eighty-one hundred people, outbound two hundred and five cars carry seventy-five hundred people. This clearly indicates that the Medford Branch, if dedicated to rapid transit purposes, would become an increasingly popular and well patronized line, as well as a profitable one.

CHAPTER VI

FOREST HILLS-HYDE PARK AND READVILLE ROUTE

There is a strong public demand for the extension of rapid transit from Forest Hills to Hyde Park and Readville. Such an extension could be by way of the New Haven Railroad, using a portion of the present right of way. The New Haven Railroad has a four track right of way along this route. Presently, the Railroad is only using two of these tracks completely, one in part and the fourth has been partly removed. It is assumed, therefore, that two of the tracks which could be available on this right of way could be used for rapid transit. The rapid transit stations would be located where they are at present with one exception. The Mount Hope Station would be moved south to a point near the Cummins Highway. The stations would be Mount Hope, Clarendon Hills, Hyde Park and Readville. Changes in the platforms would have to be made to accommodate high level loading of cars as required by the rapid transit trains which would also run through the Washington Street Subway. The distance from Forest Hills to Readville is slightly over four miles. The running time between Forest Hills and Readville would be approximately ten minutes.

SERVICE

Rapid transit trains would operate at a peak hour frequency of seven and a half minutes. Throughout the remainder of the day there would be four trains per hour.

Plans have been prepared by this Commission for utilizing most of the present facilities along the right of way, thus permitting the extension of rapid transit at a very low construction cost.

The recommendation of this Commission in its previous report was for the extension of rapid transit from Forest Hills to Dedham by way of the West Roxbury Branch of the New Haven Railroad. If this new route to Readville should be constructed it could continue so as to join with the route previously recommended at East Dedham, thus affording a loop operation for rapid transit service. If the loop is not desired, the proposed route could terminate at Readville and the storage tracks and terminal facilities would be located just beyond the Readville Station on a portion of the right of way of the Dedham Branch. This proposed route to Readville would be a branch of the extension described previously in this report from Forest Hills to Dedham.

Hyde Park offers excellent opportunities for the development of real estate and the building of more homes. The City of Boston would benefit through increased taxes due to a construction program accelerated by good transportation. Readville is a growing residential and industrial section and would offer ever increasing revenue to such an extension. We recommend this proposal.

CHAPTER VII

FURTHER EXTENSIONS OF PROPOSED RAPID TRANSIT SERVICE BEYOND BRAINTREE

In our first report, the proposed rapid transit extensions were confined in scope to a radius approximately ten to twelve miles from the center of Boston. In June, 1941, the passenger traffic study conducted by the Department of Public Utilities made it evident that there would not be a sufficient number of probable users in the foreseeable future to justify extending rapid transit beyond this twelve mile zone, particularly north and west of Boston.

One of the functions of this Commission was to devise a plan whereby commuters would be insured adequate means of transportation in the event of curtailment or termination of service by the steam railroads. The likelihood of such an eventuality has been pointed out.

One of the obvious advantages of the system which we have designed is that the lines may be extended cheaply and easily as far from the center of Boston as the needs of the public may require and the amount of traffic may justify. While proposed extensions beyond the ten to twelve mile zone are not presently justified north and west of Boston, a different condition prevails to the south. There is a large commuter area now served by the Old Colony system which would require rapid transit should steam service be terminated.

There are three major commuter lines presently serving the area:

One: A branch from South Braintree to Plymouth by way of South Weymouth, North Abington, Abington, Whitman, South Hanson, Monponset, Kingston and Cordage.

Two: A branch from Braintree to Greenbush via East Braintree, Weymouth, Weymouth Heights, East Weymouth, Hingham, Cohasset, North Scituate, Egypt and Scituate.

Three: A branch from Braintree to Middleboro via South Braintree, Braintree Highlands, Holbrook, Avon, Montello, Brockton, Campbello, Bridgewater and South Bridgewater.

In our first report we laid out a rapid transit extension to Braintree and feeder bus service to the communities to the south.

Public hearings held at Quincy, Braintree and Weymouth produced evidence of substantial public demand for rapid transit to the important communities to the south. Accordingly, the Commission has made a further study of what might be done to serve this commuter area south of Boston. We cannot justify the extension of rapid transit throughout the entire extent of these three routes, namely to Greenbush, Plymouth and Middleboro. The probable passenger traffic which would use a rapid transit system would be inadequate to support such extensions. Nevertheless, an examination of the origin of the passengers on these routes indicates that rapid transit might be extended beyond Braintree to certain points on the three lines mentioned. The proposed service to Braintree offers a four-minute headway in the peak hours, morning and night, and a frequency of eight minutes throughout the remainder of the day. This service is justified because of the estimated passenger traffic which would use the system between Boston and Braintree. The same trains which it is proposed to operate to Braintree can, with some justification, be run over the railroad right of ways to certain points on the three branches beyond Braintree. On the branch to Greenbush it seems probable that rapid transit as far as Scituate may be justified. On the line to Plymouth, rapid transit might be carried to Whitman; and on the line to Middleboro, we might safely go as far as Brockton.

The operation of rapid transit to these points would be at a greatly reduced headway which, however, could be increased as public necessity should require. It is suggested that three trains per hour might be operated in the peak hours and hourly service throughout the other hours of the day. This service would have to be coordinated with the necessary freight service of the Railroad.

From Braintree to these points to the South, our further study discloses that an alternate service of bus operation over the highways is not practical from an operational point of view due to traffic conditions. The peak load traffic on the present steam railroads consists of approximately thirty-three hundred passengers who use the service at the stations between Braintree and Boston, not including those originating from points south of Braintree. Assuming that a bus can carry an average pay load of forty people, it would require eighty-two buses to move these thirty-three hundred riders from Braintree to Boston in a single peak hour at the rate of one and a third buses per minute. The average speed of these buses on the highways would not exceed twenty miles an hour and the speed would be less as congestion increased toward Boston.

If all of the riders from points south were required to be transported to Boston by bus, one hundred and fifty-nine buses would be needed to carry approximately sixty-four hundred passengers in the peak hour, or over two and two-thirds buses per minute. This frequency of bus operation in either case would result in surface tie-ups on the highways and would defeat any hope of the rapid and safe movement of people which a rapid transit system must be designed to do.

It seems evident, therefore, that any provision to supply suitable transportation to the people south of Boston to the extent recommended, in the event that the steam service is abandoned, must be by means of rapid transit trains.

TRANSFER AT BRAINTREE TO LOW LEVEL ELECTRIC CARS, AS ALTERNATIVE

An alternate method of furnishing transportation to the people south of Braintree is by high speed electric trains with low level platform loading, operated over the railroad right of ways. These cars can be operated in trains in the peak hour and singly throughout the remainder of the day. This type of service can be furnished at slightly less per mile than the electric trains service proposed to Braintree. The objection to this alternative is that it requires a bodily transfer at Braintree and would therefore not tend to attract so many riders.

CHAPTER VIII

THE STEAM RAILROAD SITUATION

The probability of the discontinuance of passenger service on the Old Colony System of the New York, New Haven and Hartford Railroad, by force of judicial decree, is no less likely now than when the first report was filed. It has become apparent that the reorganized New Haven will not become encumbered by the inevitable losses resulting from the commuter passenger business. It is time to look at this fact squarely and make our plans for commuter service accordingly.

It is significant that the special legislative commission which has been investigating railroad transportation facilities within the Commonwealth, in a report filed on May 1, 1946 (House Document 2119), stated (Page 33) that apparently it will cost the Boston & Maine Railroad in the current year, one dollar and twenty-five cents for each dollar of passenger revenue received from its commuter business. It has also been stated by an official in authority that the commuter business is highly unprofitable on the Boston & Albany Railroad. The special Railroad Transportation Commission has gone so far as to report that it is unlikely that the income from freight operation on the Old Colony will be sufficient to absorb the loss resulting from the passenger business.

It seems inevitable that the loss to the railroads from commuter service will increase rather than decrease.

We reiterate what we have previously reported, "The railroads within the area should be restricted to their trunk line long haul passenger and the essential freight service, which, after all, is their real province. The solution to the problem is rapid transit". Plans should be made and executed accordingly.

CHAPTER IX

THE TRAFFIC PROBLEM AND ITS SOLUTION

There is no civic problem which merits and is receiving greater study than that of the intolerable traffic conditions. In the Boston Metropolitan area over two million persons must be furnished with transportation daily.

The present Boston Elevated System carries over one million passengers each day.

The difficulty is that the lines of that system do not extend out to the suburban areas of population. Suburbanites have therefore, largely from necessity and to some degree from choice, resorted in increasing numbers to the use of the private automobile and buses. This results in the choking of the already inadequate streets, aggravated by the non-existence of adequate parking facilities. By the use of public transportation vehicles, operated on their own exclusive right of ways, it is possible to reduce, and in our judgment to solve, the problem of traffic congestion in Metropolitan Boston. Many cities like Boston have found their downtown streets clogged and congested and are forced to ponder remedies. Such studies have two main objectives:

1. To reduce accident hazards;
2. To facilitate the flow of traffic.

As a result, many innovations have been introduced such as traffic lights, one way streets, banned or restricted parking, and regulations for time of delivery of goods. A tour of downtown Boston on any day will demonstrate that those expedients have not cured traffic congestion. Unquestionably, conditions might be worse if these regulations had not been adopted. A fundamental error has been made in trying to solve the problem by providing the means for the mass of citizens to ride to and from their work by private automobiles. A few simple figures will demonstrate the fallacy. The automobile uses forty-six square feet to a passenger as compared with four square feet per passenger in a subway. If this fact is not recognized, the central districts of our city will have to be completely rebuilt, a policy which will create a burden of taxation too heavy to bear. The users of our city streets can be divided into five classes:

1. The pedestrian;
2. The truck or common carrier of goods;
3. The private motorist;
4. The taxicab; and
5. The public transport vehicle for passengers.

We need not discuss the pedestrian as his use of the city streets is, or can be, largely confined to his own private right of way, namely the sidewalk. As far as the other four users are concerned, their interests in the use of the streets are not entirely the same, but they are all united in their desire to move as rapidly and as efficiently as possible. The trucker wishes facilities provided so that he may pick up and deliver goods while his vehicle is stationary. The automobilist wishes to use the streets for the driving and parking of his vehicle. The taxicab operator desires to drive as well as to park his vehicle while serving his customers. The public transport rider *only* wishes to use the streets for movement and not for parking.

The day has long passed when a large city can afford to have its downtown streets and main thoroughfares clogged with stationary vehicles. Those interested in this problem offer three main solutions:

1. The widening of present streets;
2. The building of express highways; and
3. The construction of subways and the use of private right of ways for public transportation.

Let us briefly analyze these three offered solutions. Street widenings do furnish additional road capacity but it has been demonstrated that they do not effect any major improvements in traffic conditions. All of us can observe that the streets which have been widened in most cities only permit the parking of more vehicles. In some instances, the cost of street widenings in terms of parked cars works out at about five hundred dollars per car, per year. It is not the duty of the municipality

to provide this expensive free parking space to the motorist, so we can dispense with that expedient as a solution.

A long range program for new thoroughfares and express highways is no doubt necessary in order to completely cover the transportation needs of the metropolitan area. However, no system of highways can ever replace a coordinated rapid transit system for mass transportation as we proceed to point out. The express highway is limited as to capacity. At best it can only accommodate about fifteen hundred vehicles per lane per hour. As most private automobiles carry an average of only one and a half persons, the express highway serves about twenty-two hundred persons per hour per lane. Compare this with forty thousand persons per hour in the public transport vehicle on a single subway track! We must also exclude the express highway as inadequate and costly and not the solution of the problem for moving peak loads of people.

Subways and exclusive rapid transit right of ways are the real answer. A subway or rail right of way is merely a second street. Consider its benefits. Speed of travel is greatly increased. After all, time saving is the important factor. Regularity of service in subways is assured. The comfort of passengers carried by this means is assured by providing shelter and protection from the elements to which the surface rider is subjected. Transit by means of the subway and the use of railroad right of ways releases vast amounts of street space by the removal of the transit vehicle from the streets. This incidentally tends to stabilize property values.

As this whole problem primarily contemplates one objective, that of moving people, the relative costs are of prime importance. In the event of street widenings only the municipality should pay their cost. In the case of the express highway, the obligation might be fairly borne in part by the city, and in part by the Commonwealth. Many people are of the opinion that these costs should be borne by the municipality as it is the municipality which derives most of the benefits therefrom.

The program of rapid transit recommended by this Commission to provide first class transportation for Metropolitan Boston contemplates changes in the present subway system and the construction of some subways, as well as the taking of full advantage of available railroad easements. In all of the estimates we have included in the cost of service four per cent to cover interest and amortization of the costs of construction. By this method, the costs will be amortized over a period of approximately twenty-five years on a sinking fund plan. By this method of financing the car rider will pay for the cost of these subways and extensions, but only once. The objective should be the abolition of parking on all streets which are needed for the movement of traffic and abandonment of the idle dream that street space can be provided to permit large numbers of citizens to go to and from their daily work in automobiles.

To summarize: As a substitute for public transit, super highways and street widenings are costly. They produce no direct revenue. Their cost of maintenance is heavy. They require policing and highway patrol. Expensive and extensive parking facilities must be maintained to supplement them. They become insufficient soon after they are built, inevitably increasing the concentration of vehicles at the very center of the city. On the other hand, the entire rapid transit system recommended by this Commission will cost no more, and probably less, than one super highway. It will produce direct revenue from fares and will be self-supporting. It will not concentrate vehicles at the center of the city. It will permit people to move through the subway system to suburban areas on opposite sides of the city. It offers transfer services within the city, clears the streets of automobile

traffic by offering people faster, more frequent and economical transportation, and allows for handling increases in traffic by the simple expedient of increasing the frequency of trains. Motor vehicles cannot compete in the metropolitan area with a modern, electrified system of rapid transit. Rapid transit offers most for the money.



ENTRANCE TO THE EAST BOSTON TRAFFIC TUNNEL

Existing conditions at the Boston end.

This typical congestion will undoubtedly increase with the accelerated postwar production of automobiles. To attempt to route additional public transport vehicles through this tunnel would further add to the problem. Much of the congestion can be relieved by an extended and improved rapid transit system. Good public transportation would result in many of these cars remaining in their garages as the owners would undoubtedly make use of the improved rapid transit facilities.

CHAPTER X

REMOVAL OF PRESENT TRANSIT FACILITIES FROM EXISTING STREETS

As has been previously stated in this report, the proposed rapid transit system will permit the removal of surface street car tracks and elevated structures from existing streets. In many instances these street car tracks exist on important thoroughfares leading directly to the heart of Boston. The capacity of these streets to accommodate motor traffic is reduced in some instances by an amount equal to one-half the width of the traveled way. If these street car tracks remain, some provision will have to be made for increasing roadway space for the use of motor vehicles. In other cases there are island reservations used in connection with the street car operation which still further reduces the available street space. As long as these surface street cars remain, the only obvious remedy lies in widening these highways which entails heavy expenditures of public funds for land takings.

Adoption of the recommendations of the Commission for rapid transit as contained in this and our previous report will eventually make available much additional highway space without the necessity of widening such thoroughfares. The striking photographic illustration which follows indicates the result which will be achieved by the removal of the elevated structures from Washington Street. The removal of these structures will not only provide additional highway space, but will also afford light and air to the buildings immediately adjacent. The elimination of the noise of the elevated trains will make these properties more desirable for all types of commercial and residential uses. Another photographic illustration which follows shows the improved conditions which will result on Massachusetts Avenue in Cambridge. This benefit extends to Arlington by the removal of surface car tracks. In fact similar benefits would result in many other important streets throughout Metropolitan Boston such as Hancock Street in Quincy which is illustrated, Broadway in Somerville, Washington Street in West Roxbury, Hyde Park Avenue, Hyde Park, to mention only a few.



COLUMBUS AVENUE IN BOSTON

Here is a striking example which shows improved conditions due to modernization and traffic separation. A center dividing strip has been installed along Columbus Avenue with breaks at intersecting streets. The result is a complete separation of inbound and outbound traffic.



WASHINGTON STREET IN BOSTON

Showing present conditions.

This photograph taken near the Cathedral on Washington Street shows the existing elevated structures and street car tracks.



WASHINGTON STREET IN BOSTON

After removal of elevated structures.

Here is a striking example of how Washington Street could be improved. The removal of the elevated structures would result in a broad thoroughfare and add to the rehabilitation of the entire district. The same result would be achieved in Charlestown through the removal of the elevated structure along Main Street.



MASSACHUSETTS AVENUE IN CAMBRIDGE

Present conditions showing street car tracks and islands.
Approximately thirty percent of the useable area of the street is taken
up by street car facilities.



MASSACHUSETTS AVENUE IN CAMBRIDGE

After removal of surface tracks and islands.

This illustration shows that the removal of the street cars and surface facilities will immediately afford full use of this important thoroughfare for vehicular traffic.



HANCOCK STREET IN QUINCY

Present conditions showing street car tracks.

This illustration shows how the capacity of this important thoroughfare is reduced due to the street cars.



HANCOCK STREET IN QUINCY

After removal of street car tracks.

Hancock Street in Quincy can be made a modern traffic thoroughfare. Removal of the street car tracks will provide immediately additional highway space for the use of vehicular traffic.

CHAPTER XI

FEEDER SERVICES

Chapter 85 of the Resolves of 1945, which continued this Commission, authorized the study of supplementary and feeder services in connection with the proposed rapid transit system. Feeder service to any rapid transit system is of two varieties.

First, there is the matter of local bus and trackless trolley lines which are contained within the area to be served by the proposed rapid transit system. This service can be furnished to the full extent required and demanded from time to time as a detail of operation, and presents no problem requiring special study by this Commission.

Second, there are the bus routes which will bring the people from points outside the area to the terminals and stations of the several rapid transit routes.

The Commission has confined itself to the more complex type of feeder service represented in the second category.

Many of the larger bus lines now serving communities outside the proposed ten mile zone now operate well into the area under consideration, in many instances to downtown Boston itself. The proposed rapid transit authority should have effective jurisdiction over all forms of such transportation within this ten mile area. If any rapid transit system is to function efficiently and to pay its way, it must not only offer service at fares that the traveling public will be willing to pay, but must be the main system to which all of the other similar services are supplementary. The routes of many of these bus lines, some of which were formerly street railways, can be relocated so as to bring their passengers to the rapid transit terminals and way stations, and the operations as relocated can be profitable. The bodily transfer made necessary by this operation is recognized to be undesirable. However, the speed at which the passengers would be transported to Boston and distributed in the city would offer adequate attractions to compensate for the annoyance of having to make this transfer.

In many cases the bus lines which run into Boston are restricted by law in their operation and franchises and are not permitted to pick up passengers beyond a certain point in the Boston area. The suggested rearrangement of these bus lines will result in a more profitable operation to the companies involved. By such a rearrangement they would not be required to drive so many miles over which no opportunity is presented to pick up additional revenue.

CHAPTER XII

RELATED SUBJECTS REFERRED TO THIS COMMISSION

The Legislature in 1946 referred to this Commission for study and report several resolves having to do with the general subject of transportation. These resolves, copies of which follow, were Chapters 54, 72 and 73 of the Resolves of 1946, and relate to the following subjects:

1. (Chap. 54). Extension of rapid transit to the City of Chelsea.
2. (Chap. 54). Double deck viaduct and extension to Salem.
3. (Chap. 54). Subway loop through Everett, Malden, Medford, Somerville, Cambridge and parts of Boston, and removal of elevated structures and the substitution of a subway from Forest Hills to Sullivan Square.
4. (Chap. 73) Extension of rapid transit from Orient Heights to Oak Island and Point of Pines, Revere.
5. (Chap. 72) Completion of public ownership of the Boston Elevated Railway Company by the Commonwealth.

The subject matter of the foregoing resolves is reported on in the Chapters which follow.

CHAPTER 54

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Forty-Six

RESOLVE INCREASING THE SCOPE OF THE INVESTIGATION AND STUDY TO BE MADE BY THE SPECIAL COMMISSION ESTABLISHED TO MAKE AN INVESTIGATION AND STUDY RELATIVE TO RAPID TRANSIT IN THE BOSTON METROPOLITAN AREA.

RESOLVED:

That the unpaid special commission established by Chapter 56 of the Resolves of 1943, and revived and continued by Chapter 85 of the Resolves of 1945, shall, in the course of its work, investigate the subject matter of current senate document numbered thirty, relative to the possibility of removing the elevated railway structures between Everett, and Forest Hills, and of constructing a subway loop from Boston through Everett, Malden, Medford, Somerville and Cambridge to Boston and to Forest Hills in the West Roxbury district, the subject matter of current house document numbered eight hundred fifty-five, relative to providing for the extension of rapid transit facilities from the East Boston district of the city of Boston to the city of Chelsea, the subject matter of current house document numbered 1543, relative to the extension of the Washington Street tunnel in the city of Boston to Sullivan Square in the Charlestown district of Boston and to Forest Hills in said city, and the removal of the existing elevated structures, and the subject matter of current house document numbered 1555, relative to providing for the construction by the Transit Department of Boston and the State Department of Public Utilities of two double deck viaducts within the Boston area to carry railroad, rapid transit and highway traffic lanes, the lower deck of which shall carry railroad and rapid transit lines and the upper deck shall carry a six lane highway, and of a rapid transit line north of East Boston to Salem and beyond. Said commission shall include in its final report to the general court the results of its investigation and study hereunder and its recommendations in relation thereto.

House of Representatives, June 3, 1946
Passed, Frederick B. Willis, Speaker
In Senate, June, 1946
Passed, Arthur W. Coolidge, President

June 8, 1946

Approved, Maurice J. Tobin, Governor.

CHAPTER 72

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Forty-Six

RESOLVE PROVIDING FOR AN INVESTIGATION RELATIVE TO THE PURCHASE BY THE BOSTON METROPOLITAN DISTRICT OF THE OUTSTANDING COMMON STOCK OF THE BOSTON ELEVATED RAILWAY COMPANY AND RELATIVE TO THE PURCHASE BY SAID DISTRICT, OF THE ASSETS AND FRANCHISES OF SAID COMPANY, AND THE OPERATION OF THE TRANSPORTATION SYSTEM SO PURCHASED.

RESOLVED:

That the unpaid special commission established by chapter 56 of the resolves of 1943 and revived and continued by chapter 85 of the resolves of 1945, shall, in the course of its work, investigate the subject matter of current house document numbered one hundred and twenty-one, relative to the purchase by the Boston Metropolitan District of the outstanding common stock of the Boston Elevated Railway Company and the subject matter of current house document numbered thirteen hundred and fifty-seven, relative to the purchase by the Boston Metropolitan District of the whole assets, property and franchises of the Boston Elevated Railway Company under the existing option and for the operation of the transportation system so purchased. Said Commission shall include in its final report to the general court the results of its investigation hereunder and its recommendations in relation thereto.

House of Representatives, June 11, 1946

Passed, Frederick B. Willis, Speaker

In Senate, June 11, 1946

Passed, Arthur W. Coolidge, President

June 13, 1946

Approved, Maurice J. Tobin, Governor

CHAPTER 73

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Forty-Six

RESOLVE PROVIDING FOR AN INVESTIGATION RELATIVE TO PROVIDING FOR THE EXTENSION OF RAPID TRANSIT FACILITIES OF THE BOSTON ELEVATED RAILWAY COMPANY TO THE OAK ISLAND AND POINT OF PINES DISTRICT IN THE CITY OF REVERE.

RESOLVED:

That the unpaid special commission established by chapter fifty-six of the resolves of 1943, and revived and continued by Chapter 85 of the Resolves of 1945, shall, in the course of its work, investigate the subject matter of current house document numbered sixteen hundred seventy-six, relative to providing for the extension of rapid transit facilities of the Boston Elevated Railway Company to the Oak Island and Point of Pines District in the city of Revere. Said Commission shall include in its final report to the General Court the results of its investigation hereunder and its recommendations in relation thereto.

House of Representatives, June 11, 1946

Passed, Frederick B. Willis, Speaker

In Senate, June 11, 1946

Passed, Arthur W. Coolidge, President

June 13, 1946

Approved: Maurice J. Tobin, Governor

CHAPTER XIII

EXTENSION OF RAPID TRANSIT TO THE CITY OF CHELSEA

(CHAPTER 54, RESOLVES OF 1946)

This resolve provides for the consideration of an extension of rapid transit from Day Square East Boston, recently authorized as far as Orient Heights by the Legislature, to Bellingham Square in the City of Chelsea.

The airline distance from Day Square to the center of Chelsea is approximately six thousand feet. A rapid transit route would be somewhat longer.

In the construction of such a rapid transit extension, the choice of the routes to be followed depends upon certain controlling factors. Highly industrialized areas should be avoided in order to escape very heavy land damages. A rapid transit route can parallel or occupy part of the right of way of the Grand Junction Railroad. As this railroad line carries a very heavy freight load, it is unlikely that any of it can be spared for rapid transit use. There are numerous freight sidings on each side of the line which would necessitate a complete track grade separation between the rapid transit line and the freight line. The only type of construction which could be used so as to overcome these difficulties would be a subway. At the present time, costs of such a subway would likely exceed ten million dollars.

The center of Chelsea is approximately a mile from the proposed Day Square Station on the rapid transit extension already authorized to Orient Heights. It would seem therefore, that the people of Chelsea could be adequately served by a system of feeder buses to the several stations on the proposed rapid transit route to Orient Heights. The cost of the suggested extension is not justified in the light of estimated use. The Commission does not recommend its construction.

RAPID TRANSIT VIA PROPOSED MYSTIC RIVER HIGH LEVEL BRIDGE

Just before going to press with this report it seemed likely that the proposed high level bridge from Charlestown to Chelsea may become a reality. Owing to the lack of time it has been impossible for the Commission to study this subject and make any specific recommendations. This bridge could be designed so as to accommodate rapid transit tracks and thus serve the City of Chelsea by way of direct rapid transit facilities. The approach to this bridge starts at a point in Charlestown at Chelsea Street near the Southerly entrance to the Navy Yard. The proposed structure will continue out Chelsea Street and will cross over the North and South portions of the Mystic River to Chelsea Square.

The Commission has made reference to the subject matter of Chapter 54 of the Resolves of 1946 which calls for an extension of rapid transit to the City of Chelsea. The possibility of rapid transit running over this bridge could accomplish the desired result. We suggest that further study be given to this possible route by the proposed rapid transit authority in order that advantage may be taken of every facility that the proposed bridge may have to offer.

CHAPTER XIV

DOUBLE DECK VIADUCT AND EXTENSION TO SALEM

(CHAPTER 54, RESOLVES OF 1946)

This resolve provides for consideration of two double deck viaducts within the Boston area, to carry railroad, rapid transit and highway traffic lanes, it also includes the extension of rapid transit to Salem and points beyond.

The previous report of this Commission, made in April, 1945, suggested in detail the extension of rapid transit from Maverick Square to the City of Lynn. Subsequently to that report the legislature has authorized the construction of rapid transit from Maverick Square to Orient Heights.

Chapter 73 of the Resolves of 1946 instructed the Commission to study the possibility of extending rapid transit from Orient Heights to the Point of Pines. This subject is discussed later in this report, in Chapter XVI.

That part of the resolve which calls for certain highway improvements to accommodate an increased flow of vehicular traffic is under consideration by a special commission which is studying the general subject of highway transportation. Any time spent on this general subject of highway transportation by this Commission would only result in a duplication of effort and added expense.

The cost of this project would be enormous. The viaducts or double deck structures, according to the resolve, would be located in part along Atlantic Avenue in Boston. Only a short time ago, the removal of the Elevated structures along Atlantic Avenue was hailed as a forward step in the rehabilitation of the whole district along Atlantic Avenue. The removal of the elevated structures has substantially increased the value of the property on Atlantic Avenue. It is reasonable to assume that if another elevated structure were to be placed adjacent to these properties, they would immediately depreciate in value.

EXTENSION TO SALEM AND BEYOND

Under the resolve rapid transit which would extend as far North as Salem and beyond is to be considered.

The studies of this Commission have demonstrated that it is not advisable to extend rapid transit lines to a point beyond which there is not sufficient commuter population to support them. To do so would jeopardize the whole project. For that reason we do not recommend this extension.

CHAPTER XV

SUBWAY LOOP AND REMOVAL OF ELEVATED STRUCTURES

(CHAPTER 54, RESOLVES OF 1946)

SUBWAY LOOP

Chapter 54 of the Resolves of 1946 called for the investigation and report on the removal of the elevated structures between Everett and Forest Hills, and constructing a subway loop from Boston to Everett, Medford, Somerville and Cambridge to Boston. The loop as described in this resolve would involve approximately fourteen miles of subway construction. Based on present day costs, without any allowances for extraordinary conditions and engineering difficulties, the expense would amount to over ninety-one million dollars. A large part of this loop would be circumferential, thus encountering topographical barriers such as hills, valleys and rivers which surround Boston. A study of the entire area demonstrates that radial lines, following the right of ways of the steam railroads out of Boston, do not encounter such difficulties. Most of the proposed rapid transit routes suggested by the Commission are radial routes and occupy a portion of the available railroad property. It is felt that any belt line or loop service can best be accomplished by means of motor bus routes as feeders or supplementary to the main lines. The only portion of the suggested loop outlined in the resolve which this Commission recommends is a subway between the present Washington Street tunnel to Dudley Street and Forest Hills.

REMOVAL OF ELEVATED STRUCTURES

The removal of the elevated structures along Washington Street to Forest Hills is strongly recommended as a general civic improvement. All the elevated structures should be removed including the overhead terminal facilities at Dudley Street. The present elevated structures are undesirable. Due to their existence property values have been depressed throughout the entire length of Washington Street. An investigation reveals that much of the property along Washington Street is vacant and in a very bad state of disrepair. The removal of the elevated structures would go a long way toward the rehabilitation of real estate throughout the entire district affected. The City of Boston would accordingly benefit through increased taxes and the proposed rapid transit route would gain new revenues as the area should become increasingly desirable for residential and business purposes.

PROPOSED SUBWAY TO DUDLEY STREET

The construction of a subway, and the removal of the elevated structure, will automatically release a wide artery for the exclusive use of vehicular traffic, without expense to the city for costly land takings for street widenings. This would be an immediate and valuable accomplishment. It might be desirable to change the locations of some of the present stations. Those who now use Dover Street and Northampton Street might be adequately served by a single station midway between these two near the Cathedral. This new station would accommodate many passengers whose destinations would include the Cathedral, City Hospital, Franklin Square House and other educational and civic institutions in the immediate vicinity. However, a thorough study of the origin and destination of passengers, together with future feeder services would have to be made before determining the actual locations of the stations on the proposed new subway line.

DESCRIPTION OF THE ROUTE

From the end of the present Washington Street Subway, at a point near LaGrange Street, it is proposed to extend the subway out Washington to Dudley Street. Underground facilities, including tail tracks or a loop with crossovers, would be provided. The present land at Dudley Street now occupied by the overhead elevated structures would be available for a surface terminal. The facilities would include a bus terminal and trackless trolley loop and offer transfer facilities to all passengers brought to the terminal by such feeder services.

FURTHER EXTENSION OF SUBWAY

Upon the removal of all the elevated structures to Forest Hills, a proposal is made to continue the subway out Washington Street to a point near Marcella Street where it would turn in a westerly direction and pass under a portion of the Marcella Street Playground, under Columbus Avenue, and by way of an incline to the tracks of the New York, New Haven & Hartford Railroad west of Center Street. The rapid transit line would continue out over these tracks and thence by way of the West Roxbury Branch of the New Haven to East Dedham as described previously in this report. This proposal and that which follows should be further studied by the proposed rapid transit authority.

ALTERNATE ROUTE FROM FOREST HILLS TO WASHINGTON STREET TUNNEL BY WAY OF THE TRACKS OF THE NEW HAVEN RAILROAD

If the elevated structures to Forest Hills are removed, some other form of rapid transit must be provided. Just previously in this chapter a new subway has been recommended as a continuation of the present Washington Street tunnel to Dudley Street. A further extension of this subway has been described involving the use of a part of the right of way of the New Haven tracks. Additional plans have been prepared for a rapid transit route all the way from Forest Hills to the Washington Street tunnel by way of the New Haven Railroad. The tracks of the New Haven are in close proximity to the end of the present Washington Street tunnel. From a point on the proposed new subway out Washington Street near Bennet Street, a connection could be made with the New Haven tracks by continuing a branch of this subway passing under Shawmut Avenue, under the tracks of the Boston & Albany and emerging by way of an incline to the New Haven tracks, and continuing out over the New Haven right of way to Forest Hills. However, occupancy of the New Haven tracks would require many modifications and changes particularly in station arrangements along the line. In the event of any abandonment or curtailment of present local passenger service by the railroad the problem will be simplified.

REMOVAL OF ELEVATED STRUCTURES BETWEEN NORTH STATION AND SULLIVAN SQUARE

The elevated structures presently standing in Charlestown constitute an important link in the present rapid transit system, but like those on Washington Street they are a deterrent to the development of the communities in which they have stood for practically half a century. They also should be removed as soon as it is feasible to do so.

Rapid transit could be extended to Sullivan Square without the necessity of constructing a long subway. A short subway connection from the present Washington Street tunnel, where it

emerges on the surface just beyond Haymarket Square, could be built to a point within the easterly end of the North Station. Rapid transit trains could then continue across the Charles River over the existing draw bridge of the Boston & Maine Railroad and then in part on the surface and in part by elevated structures through the freight yards of the Boston & Maine Railroad parallel with Rutherford Avenue to Sullivan Square. This proposal is dependent on, and would follow the consummation of the plan to operate rapid transit trains over parts of the right of ways of the Boston & Maine Railroad. Under this operation the Boston & Maine would be in a position to release some of its tracks through the yards and in the North Station for rapid transit purposes. It is assumed that two tracks now generally used by the Portland Division of the Eastern Route could be used and would cross over the branch known as the Mystic Wharf Branch by means of a trestle or viaduct, run parallel with this branch and connect with the present Boston Elevated station at Main Street in Charlestown. A plan for this proposal is filed with this report.

The present elevated structure from Sullivan Square to Everett should not be removed, as it constitutes an important feeder facility to Sullivan Square.

ALTERNATE ROUTE BETWEEN NORTH STATION AND SULLIVAN SQUARE

An alternate route might be adopted which would not be contingent on the Boston & Maine releasing a substantial portion of its present station and yard facilities. From the present elevated structure at the North Station, a trestle could be built between the Boston Garden and the Industrial Building, continuing over the Charles River and Prison Point viaduct, thence continuing in part on the surface and in part by trestle to the present elevated terminal at Sullivan Square.

CHAPTER XVI

EXTENSION OF RAPID TRANSIT FROM ORIENT HEIGHTS TO OAK ISLAND AND POINT OF PINES

(CHAPTER 73, RESOLVES OF 1946)

This Resolve directs an investigation relative to extending rapid transit to Oak Island and Point of Pines in the City of Revere. In our original report we explained in detail an extension of rapid transit from the present terminal at Maverick Square in East Boston to the Airport and thence to the City of Lynn. Inasmuch as the route from Maverick to Orient Heights has been authorized by the Legislature this resolve requires a report on the construction of an additional segment from Orient Heights to Point of Pines. Adequate plans for this extension were filed by this Commission with the previous report.

There are no substantial steam railroad facilities which serve any of the points under consideration. The Boston Elevated Railway at present offers service in all parts of East Boston and as far as Revere Street in Revere.

Transportation in this area by bus is also provided by the Service Bus Lines, Rapid Transit, Inc. and the Eastern Massachusetts Street Railway Company.

The people living in Winthrop are brought to the Boston Elevated System at Maverick Square by the service offered by Rapid Transit, Inc.

SERVICE TO SAUGUS

If this proposed extension should continue to Point of Pines a short highway across the marshes leading into the center of Saugus should be constructed. The Saugus area would then have direct access to this important rapid transit station by means of feeder buses. This would provide the people of Saugus with a much faster means of transportation to the heart of Boston than they now possess. The slight disadvantage of having to make a transfer at Point of Pines would be largely offset by the added convenience, frequency of operation and the speed of travel.

TERMINAL AT POINT OF PINES

The distance from Point of Pines to the center of Lynn is approximately two miles. If the proposed rapid transit route were terminated at Point of Pines it would result in saving the cost of a new bridge over the Saugus River for the exclusive use of rapid transit trains and the added cost of changing many of the existing railroad bridges on the Boston & Maine into Lynn. Any commuters who now travel to Boston on the Eastern Massachusetts buses could be brought to the new terminal by these same buses and transfer to the rapid transit at this point. However, for the reasons already expressed this Commission recommends the extension to Lynn.

CHAPTER XVII

COMPLETION OF PUBLIC OWNERSHIP OF THE BOSTON ELEVATED RAILWAY COMPANY

(CHAPTER 72, RESOLVES OF 1946)

Section 17 of Chapter 333 of the Acts of 1931 under which the Commonwealth can complete public ownership of the Boston Elevated Railway Company, so far as material, is as follows:

"The acceptance of this act by the company shall constitute an agreement upon its part that in no event that after termination of public management and operation shall dividends in excess of six (now five) per cent per annum be declared or paid upon its common stock.

"Such acceptance shall also constitute agreement by the company to sell to the commonwealth or any political subdivision thereof or any corporation specifically authorized by the Commonwealth to purchase the same, at any time during the period of public management and operation, its whole assets, property and franchises as a going concern upon the assumption by the commonwealth or such political subdivision of all its outstanding indebtedness and liabilities, and the payment of an amount in cash equal to any amount paid in cash for stock hereafter issued and also an amount in cash equal to one hundred and five dollars per share for all common stock at present issued and then still outstanding, decreased by one half of any sum hereafter assessed under the provisions of said chapter

one hundred fifty-nine of this act, upon cities and towns served by the company which have not then been repaid to the commonwealth provided however that such decrease shall not reduce the amount payable on account of said stock below the amount of eighty-five dollars per share. A sale by the company under the foregoing option shall work a dissolution of the company subject to the provisions of sections fifty-one and fifty-two of chapter one hundred fifty-five of the General Laws.”

OPTION PRICE

By Resolve 72, this Commission is directed to investigate and report on the purchase of the whole assets, property and franchises of the Boston Elevated Railway Company by the Boston Metropolitan District (not to be confused with the Metropolitan District Commission).

The option to purchase is reserved by the Commonwealth under the provisions of said Section 17 of Chapter 333 of the Acts of 1931.

To determine the option price under existing law, which, because of its acceptance by the company constitutes a binding contract between Commonwealth and the company, it is necessary to take into account the operating deficits of the company which have been paid by the fourteen cities and towns within the Boston Metropolitan District. This is necessary because the maximum price fixed at a rate of one hundred and five dollars per share for the common stock is to be reduced by one-half of such deficit not repaid but to not less than at the rate of eighty-five dollars per share.

The deficits assessed to date against the cities and towns in the district, not including deficits since 1940 which have not been assessed due to pending litigation, total	\$18,491,662.61	
one-half of that or	\$ 9,245,831.30	
divided by	238,794	shares
of outstanding common stock which equals	\$ 38.71	per share
maximum option price is	\$ 105.00	
less	\$ 38.71	
equals	\$ 66.29	per share

The option and agreed minimum price for each share of the common stock is at the rate of eighty-five dollars. The par value of this common stock amounts to \$23,879,400. The total contract or option price at eighty-five dollars a share is \$20,297,490.

The common stock is guaranteed an annual dividend of five dollars per share by the Commonwealth or maximum of \$1,193,970 annually until July 1, 1959, when public ownership ends under existing law.

It is astounding that this stock has not heretofore been acquired and public ownership completed.

The reasons for our recommendations that public ownership be completed are numerous and compelling. The Boston Metropolitan District, being a political subdivision of the Commonwealth, can borrow money at rates of interest less than two per cent per annum. Accordingly, the Boston Metropolitan District should be directed to complete public ownership at the option price of \$20,-297,490. To finance the purchase the District should be directed to issue its bonds for the necessary amount. The Railway Company, or its successor, the proposed rapid transit authority, could then issue its bonds to the Boston Metropolitan District for the equivalent amount of \$20,297,490, at the same rate of interest and same maturity as the District’s bonds, together with not over two per cent

per annum which, on a sinking fund plan, would pay off the debt in approximately twenty-five years. This is the method by which all of the \$76,200,917 funded debt of the Boston Elevated Railway Company has been refinanced, or authorized to be refinanced, at low interest rates. The refunded bonds of the Boston Elevated Railway provide for the annual payment of two per cent on account of principal to provide for the payment of the debt in approximately twenty-five years on the sinking fund plan.

The elimination of the dividend and the savings on federal income taxes which would not be chargeable against a publicly owned system, would save the public over one million dollars annually. This annual saving of public funds is possible even after provision of two per cent annually for the retirement of the debt incurred for the completion of public ownership.

Presently unused electric power from the South Boston and Lincoln Wharf plants would be fully utilized by the proposed rapid transit system.

The ownership of the property of the company would give to the people a going concern at a value which has been built up beyond the option price by the use of public money and public credit.

COMPLETION OF PUBLIC OWNERSHIP

We urgently recommend the immediate purchase of the whole assets, property and franchises of the Boston Elevated Railway Company as a compelling public necessity and as the nucleus of an extended rapid transit system as proposed.

In Chapter XIX which follows we have discussed public ownership of the Elevated and explained the various methods by which the Elevated can be acquired. Our recommendation is to exercise the option which the Commonwealth possesses under Section 17 of Chapter 333 of the Acts of 1931. Our conclusion is based on existing law. We recognize that this does not exclude the possibility of an agreement being reached between the Commonwealth and the stockholders to acquire the stock at less than the present option price. If there is a reasonable possibility that the stockholders would sell to the Commonwealth at less than the present statutory option price then of course such a possibility should be explored and appropriate legislation enacted.

The completion of public ownership of the Elevated System and the creation of a public authority will tend to place such an authority in an advantageous position whereby it can demand and get concessions which will lighten the burden now borne by the taxpayers. The harassed taxpayers of the City of Boston and the thirteen other adjacent cities and towns comprising the Boston Metropolitan District have paid out over \$18,000,000 in assessments since 1931 with the end nowhere in sight.

The economic benefits resulting from public ownership will extend far beyond the borders of the actual district. Any plan for completion of public ownership of the Elevated should have the support of the entire metropolitan area.

Continuation of the present conditions and the failure to complete public ownership and extend the system will only perpetuate the necessity for further and ever increasing contributions by the taxpayers, with possible eventual forfeiture of this public transportation to which they are entitled. Failure to complete public ownership is an injustice to the public at large.

The draft of legislation appended to this report for the proposed rapid transit system contains provision for the completion of public ownership of the Elevated. The portion thereof, pertinent to the completion of public ownership, is Section Twelve.

CHAPTER XVIII

ACQUISITION OF THE SUBWAYS BY THE COMMONWEALTH

There is no doubt that a city and its suburbs gain largely, financially as well as in other ways, by every extension of transportation facilities, and particularly by the construction of rapid transit lines which bring new districts within easy reach of the business center. Such transportation improvements lead to increases in real estate values, thus adding to the revenue from taxes without increasing the rates. Property values throughout Metropolitan Boston have been greatly increased from time to time by the extension of the Boston Elevated and the subway systems. It is only fair, as well as profitable, that because of these increases in values, the general taxpayer should relieve the car rider of certain of the expenses of maintaining the system.

In the public interest the Commonwealth should buy these subways now owned by the City of Boston, or the City of Boston should allow a public transportation authority to use them at a nominal rental after they shall have been paid for, their cost of maintenance to be borne by the rapid transit authority. In no event should the transit system be obliged to continue the payment of subway rentals after the subways have been fully paid for.

As far back as the year 1916, a special commission to consider the financial condition of the Boston Elevated Railway Company was established. That Commission was composed of the then Lieutenant Governor Calvin Coolidge, President of the Senate Henry G. Wells, Speaker of the House Channing Cox, Senator Sanford Bates, Representatives Jewitt, Newhall, Donovan and Lawler, and the Public Service Commission of McLeod, Stone, Meaney, Eastman (late Chairman of the Interstate Commerce Commission), and the Boston Transit Commission. The proceedings of this Commission were printed as House Document 1875 of the year 1917, and many persons and organizations are there recorded as favoring the elimination of subway rentals. That report, and much of the testimony given before that Commission, supports our proposition.

The annual payments, by the Boston Elevated Railway to the City of Boston for subway rentals exceeds \$2,400,000.

Relative to state Railway legislation in December of 1919, Governor Calvin Coolidge stated that "Transportation is a public necessity of the first importance. Without it the transaction of business as now conducted would cease. The cost of this service has become prohibitive in many instances, but transportation is none the less a public necessity like schools, highways, and public lighting. If it cannot be paid for by the car rider, the expense must be met by the remission of taxes or by a contribution from the public treasury".

In a special report of the public service commission included in House 1240 in the year 1918, it is stated that the same motives which lead a community to assume directly all or a portion of the burden of highways, parks, sewerage systems and water supplies would justify it in assuming some share at least of the cost of these extraordinary transportation facilities.

There is no justification whatever for the continuance of subway rentals after the subways are paid for.

Attention is further called to this subject under the caption "Subway Rentals" in the chapter which follows.

CHAPTER XIX

EXPLANATION OF LEGISLATION REQUIRED

SUBWAY RENTALS

There are many important considerations involved in creating a public transit system and authority. It is a primary objective that any such system should be practically self-sustaining at all times. In order to assure that result, it becomes necessary to eliminate from the cost of service certain items which, in the past, have contributed largely toward the operating deficits of the Boston Elevated Railway. One of the most important of these items is the subway rentals aggregating \$2,435,729 annually which the Elevated pays to the City of Boston for the use of the subways which the Elevated also maintains. Provision should be made by direct act of the legislature for the acquisition by the Boston Metropolitan District of the subway system now owned by the City of Boston. One method by which this can be accomplished, with the consent of the City, is contained in the Acts of 1929, Chapter 383, Sections 8 and 9. To permit the subways to remain under ownership of the City of Boston to which a rapid transit is required to pay high rentals for their use, might well mean a deficit operation even though the transit system be owned and operated publicly. The rapid transit should be relieved of that burden as has previously been pointed out.

The present subway system will require some changes and additions in order to accommodate the proposed rapid transit extensions. So long as these subways remain the property of the City of Boston it will be necessary to negotiate with the City in order to make these structural changes. Ownership of these subways which will form the nucleus of the proposed enlarged rapid transit system, should be lodged with the Boston Metropolitan District Trustees who should be authorized to purchase them. Their control should be by the rapid transit authority. There is no sense nor logic in the proposition that a public transit system should continue to pay large subway rentals to the City of Boston, even after the City shall have received back the entire cost of their construction, with interest. The City should be paid for the subways only once. The over-all benefits of the proposed extended rapid transit system will more than compensate the City of Boston for the loss of subway rentals. It will relieve Boston of its sixty per cent share of Boston Elevated deficits, said sections 8 and 9 of said Chapter 383 covers this subject.

PUBLIC OWNERSHIP OF THE ELEVATED

The completion of public ownership of the Boston Elevated Railway by the Boston Metropolitan District can be affected under existing legislation. No additional legislation is needed except to authorize the exercise of the statutory option. In the past many bills have been filed having to do with this subject. Some of these bills have provided for public acquisition by eminent domain. Acquisition by such means would make the price uncertain until after long and expensive litigation. Acquisition by eminent domain proceedings may be summarily disregarded as inimical to the public interest.

Proposals to acquire the company as a going concern at a price to be fixed by negotiation and agreement with the company are equally unattractive from the public interest point of view. Uncertainty as to price, payment of property values built up by public funds, and possible litigation quickly dispose of such proposals.

The plain and obvious method to be employed is to exercise the option which the Commonwealth

possesses under Section 17 of Chapter 333 of the Acts of 1931, as has been advocated by this Commission.

PROPOSED TRANSIT AUTHORITY

Proposed legislation must also provide for the establishment of a public authority with sufficient powers to operate the system effectively. A board of five trustees is recommended, with the powers purposely drawn extensively enough to permit effective operation. Such broad powers must, however, be subject to appropriate checks. We have therefore provided that the Department of Public Utilities shall have the same regulatory and supervisory jurisdiction over the rapid transit system that it has over privately owned and operated utilities. This is a necessary safeguard in the public interest. In addition it gives the public a fair chance to proceed by petition before the Department to have its interests protected as to fares and services.

FINANCING

The method proposed for Financing is the utilization of an enlarged Boston Metropolitan District as the money raising agency. This proposal is not to be regarded as an effort or wedge toward making a larger corporate City of Boston. The sole function involved is metropolitan transportation. It is proposed that the Boston Metropolitan District raise all money needed by the rapid transit authority for capital purposes, issuing its bonds at very low rates of interest as the District has done in refunding the maturing high interest bonds of the Boston Elevated Railway Company. The rapid transit authority should then be required to issue its bonds to the District for the money so raised upon the same terms as the District's bonds, plus an additional payment not exceeding two per cent per annum, to be received and held by the District on a sinking fund plan for eventual payment of the rapid transit bonds in approximately twenty-five years.

COMPENSATION FOR ACQUISITIONS

Legislation must provide, in justice, for the payment of compensation to carriers whose properties are taken in whole or in part and thereby become a part of the integrated rapid transit system.

Recently, the management of the Eastern Massachusetts Street Railway Company, through its board of public trustees, have declared that the adoption of the provisions of the report of this Commission on rapid transit would mean ruination to the Eastern Massachusetts Street Railway Company. It has been further stated that should the Commission's plan be effectuated it would jeopardize not only the Eastern Massachusetts property, but also the jobs, welfare and security of its twenty-three hundred workers.

There is nothing mandatory in the proposed act whereby the authority shall acquire or put out of business any agency now furnishing public transportation within the proposed district. On the contrary, in the public interest, the authority may, and undoubtedly would in many cases, permit several of the agencies now existing to continue to furnish service. However, the authority might well effect changes in the various routes in order to insure good feeder service and at the same time avoid duplication so as to have a unified and integrated system. Any carrier now furnishing transportation service acquired by the authority should receive compensation. In the final analysis, the major question involves the interest of approximately two million people whose needs must be considered as paramount to any lesser or special interests.

PROTECTION OF PERSONNEL

Generous and complete protection must be given to those presently employed in the transportation of local passengers who may be taken over by the authority so that none such will lose his status, employment or retirement rights of any kind because of his absorption into the unified rapid transit system.

Fears have been expressed by spokesmen for the union representatives of some of the street railway companies that enactment of the legislation to create a metropolitan authority would cause loss of employment or reduction in wages. It is unlikely that a vastly expanded system of rapid transit designed to serve over two million people in the metropolitan area would require a materially lesser number of employees than those presently engaged in transportation. This extended system will require over six hundred additional rapid transit vehicles which will necessitate the employment of a large personnel. By way of illustration, when rapid transit was extended from Andrew Square to Ashmont over parts of the Old Colony Railroad, railroad commuter service was abandoned by the steam railroad. It is interesting to note that there were more employees engaged in rapid transit operation over this new extension than were previously employed by the New Haven Railroad in the conduct of the previous commuter service. Evidently, what has been overlooked is the fact that feeder services from the outlying areas to the proposed rapid transit terminals and stations will undoubtedly require all of the facilities of many of the carriers operating within the area.

The appended draft of legislation purports to give just protection to personnel.

LICENSES

We have proposed in the draft of legislation that the rapid transit authority will be the sole licensing authority for the local carriage of passengers for hire within the District not including taxi cabs. This involves the surrender of some local control on the part of the cities and towns affected. Obviously the system should not be placed in jeopardy because of adverse action by one or more of the licensing authorities in the numerous municipalities affected.

ENLARGEMENT OF BOSTON METROPOLITAN DISTRICT

Only those cities and towns now included in the Boston Metropolitan District and those other cities and towns to which rapid transit is extended from time to time by authority of the Legislature shall be subject to the provisions of the proposed act.

CONCLUSION

Throughout the report the Commission has set forth its specific recommendations. The primary objective is to secure a unified and integrated rapid transit system for the people of Metropolitan Boston. Its functions would be to render a public service. The welfare of the metropolitan area is indeed dependent upon good public transportation. The public have presently a huge investment in the Boston Elevated Railway system and the subways. We must protect this investment by making full use of the facilities which it represents. We urge the adoption of the legislation appended to this report which in our opinion will provide the solution to our transportation problem. We offer this report as a substantial contribution to the deliberations of the General Court in dealing with this entire problem.

Respectfully submitted,

ARTHUR W. COOLIDGE, *Chairman*

PETER J. JORDAN, *Vice Chairman*

CARROLL L. MEINS, *Administrative Chairman*

HALLAM T. RING, *Secretary*

ALBERT E. ROBERTS

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APPENDIX I

PROPOSED LEGISLATION

An Act to Provide for the Creation of the Metropolitan Transit Authority to Establish and Operate a Unified System of Rapid Transit Facilities for the Transportation of Passengers within the Commuting Area of Metropolitan Boston.

METROPOLITAN TRANSIT AUTHORITY

Section 1. The territory within and the inhabitants of the following cities and towns, to wit: Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Milton, Medford, Malden, Newton, Revere, Somerville, Watertown and the territory within and the inhabitants of such other cities and towns as shall be included in the metropolitan transit district by the extension of rapid transit shall also constitute and become a part of the Boston Metropolitan District established under Chapter 383 of the Acts of 1929, as amended, and for the purposes of this Act are made a body politic and corporate under the name of the Metropolitan Transit Authority, hereinafter in this act called the authority or the district, when the context so requires, with power to take by eminent domain under chapter seventy-nine of the general laws and to hold property, sue and be sued in law and equity, to prosecute and defend in all actions relating to its property and affairs, and to contract and do other necessary acts relative to its property and affairs; and said authority shall be liable for its debts and obligations. Process may be served upon the treasurer of the authority.

TAXES

Section 2. The real estate of the authority, with the exception of that actually in use for tunnels, subways, stations, transfer areas, rapid transit lines and their appurtenances, shall be subject to taxation by the city or town in which it is located in the same manner and to the same extent as if privately owned. The personal property of the authority shall not be subject to local taxation.

TRUSTEES

Section 3. The affairs of the authority shall be managed by a board of five public trustees, hereinafter in this act called the trustees, who shall be appointed by the governor, with the advice and consent of the council. The trustees originally appointed hereunder shall serve for terms of two, four, six, eight and ten years, respectively, as the governor shall designate, from the date of their appointment. As the term of office of a trustee expires, his successor shall be appointed by the governor with like advice and consent, for a term of ten years. All trustees appointed hereunder shall hold office until the qualification of their respective successors. The governor shall designate from time to time one of the trustees as chairman. Any trustee may be removed for cause by the governor with like advice and consent. Any vacancy in the office of a trustee shall be filled, for the unexpired term, by the governor with like advice and consent. Not more than three trustees shall be members of the same political party.

Section 4. The chairman shall receive an annual salary of _____ dollars and the other trustees shall each receive an annual salary of _____ dollars. The trustees shall be sworn to the faithful performance of their official duties. They shall not be in the employ of, or own any stock in, or be in any way, directly or indirectly, peculiarly interested in, any gas or electric company, water company, railroad corporation, bus or street railway company, or company engaged in the transmission of intelligence by electricity, nor shall they be connected with or in the employ of any person financing any such company. They shall not personally or through a partner or agent render any professional service or make or perform any business contract with or for any such company, nor shall they directly or indirectly, receive a commission, bonus, discount, present, or reward from any such company. As used in this section, "company" shall include any person or combination of persons, whether or not incorporated.

POWERS AND DUTIES OF TRUSTEES

Section 5. The trustees shall adopt a corporate seal for the authority, and designate the custodian thereof. A majority of the trustees shall constitute a quorum for the transaction of any business, and the action of a majority of the entire membership shall be required for any action. The trustees may from time to time appoint and at pleasure remove a president, one or more vice-presidents, a clerk, a treasurer, and such other officers, agents and employees of the authority as they may deem necessary, and may determine their duties and their compensation, which shall be paid by the authority; shall cause at all times accurate accounts to be kept of all receipts and expenditures of the funds of the authority; and shall make an annual report, containing an abstract of such accounts, to the governor, the general court and the trustees of the Boston Metropolitan District created by chapter three hundred and eighty-three of the acts of nineteen hundred and twenty-nine and acts in amendment thereto. The offices of treasurer and clerk may be held by the same person. Except as herein otherwise provided, the trustees shall have full power to represent the authority, to have the care of its property and the management of its business and affairs, and to sell and convey any real estate or other property not needed for its business or affairs, by deed or other instrument sealed with the corporate seal, signed and acknowledged by a majority of the trustees, or in like manner to authorize such sale and conveyance by any of its officers or agents. The treasurer and each assistant treasurer, if any, shall give bond for the faithful performance of his duties with a surety company authorized to do business in this commonwealth as a surety, in such sum as the trustees may determine, the premium therefor to be paid by the authority.

Section 6. It shall be the general duty of the trustees so to exercise their powers under this act as to secure the provision of an adequate, integrated and efficient system of rapid transit and the improvement thereof within the area of the district by means of subways, surface and elevated equipment and structures, and related facilities, as they may determine. The trustees shall manage and operate the property owned, leased or operated by the authority, and, except as otherwise provided in this act, shall have and exercise all rights and powers of the authority, and shall receive and disburse its income and funds. Except as hereinafter in this act provided, they shall have the right to pay pensions, regulate and fix fares, and charges for services furnished or operated, including the issue, granting and withdrawal of transfers and the imposition of charges therefor, and shall determine the character and extent of the service and facilities to be furnished, within the District.

In the management and operation of the authority and of the properties owned, leased or operated by it, as authorized by this act, the trustees and their agents, servants and employees shall be deemed to be acting as agents of the authority and the authority shall be liable for their acts and negligence in such management and operation, but the trustees shall not be liable personally for their acts except for malfeasance in office.

Section 7. The trustees shall have power to make contracts in the name and in behalf of the authority, and in its name and behalf to issue bonds, notes and other evidences of indebtedness to the Boston Metropolitan District as hereinafter provided, but shall not issue stock of any class unless on each occasion first authorized to do so by the general court. The total amount of bonds, notes, and other evidences of indebtedness hereby authorized to be issued for the purpose of this act is dollars. The trustees shall also have power in behalf of the authority to borrow money temporarily and issue notes of the authority therefor in anticipation of the issue of bonds, or of income to be received, or to provide for the payment of any obligation when due, for which funds are not available. No purchaser of such bonds or lender upon such notes shall be bound to see to the proper application of the money paid or loaned.

Section 8. The trustees shall issue only such amount of bonds, notes and other evidences of indebtedness payable at periods of more than one year after the date thereof, as the department of public utilities, hereinafter in this act called the department, may from time to time approve as reasonably necessary for the purpose for which such issue of bonds, notes or other evidences of indebtedness has been authorized. The department shall render a decision upon an application for such issue within

thirty days after the final hearing thereon. The decision shall be in writing, shall assign the reasons therefor, and shall, if approving such issue, specify the respective amounts of bonds, notes or other evidences of indebtedness which are approved to be issued for the respective purposes to which the proceeds thereof are to be applied, and shall, within seven days after it has been rendered, be filed in the office of the department. A certificate of the vote of the department, within three days after such decision has been so filed and before the bonds, notes or other evidences of indebtedness are issued, shall be filed in the office of the state secretary, and a duplicate thereof delivered to the authority which shall enter the same upon its records. None of the proceeds of such bonds, notes or other evidences of indebtedness shall be applied to any purpose not specified in the certificate.

FARES—COST OF SERVICE

Section 9. The trustees shall, from time to time, subject in each instance to the approval of the department, fix such rates of fares and charges for services furnished or operated as will reasonably insure sufficient income to meet the cost of the service, which shall include operating expenses, taxes, rentals, interest on all indebtedness assumed by the authority and still outstanding, and interest including amortization of discount or premium on bonds or notes of the authority issued under this act, retirement of debt, such allowance as they may deem necessary or advisable for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned, and all other expenditures and charges which under the laws of the commonwealth now or hereinafter in effect applicable to street railway companies may be properly chargeable against income or surplus.

REGULATION

Section 10. The department shall have the same general supervision and regulation of, and jurisdiction and control over, the services furnished or rendered by the authority as it has over common carriers under section twelve of chapter one hundred and fifty-nine of the general laws.

ACQUISITION OF PROPERTIES AND MANAGEMENT

Section 11. The trustees may, subject to the provisions of this act, (a) acquire by purchase, take by eminent domain under chapter seventy-nine of the general laws, or lease the whole or any part of the property, real or personal, of any common carrier of passengers within or partially within the district whether operated under public, or private control; (b) maintain, manage, extend and improve the transportation system; (c) purchase, repair and maintain rolling stock, vehicles, appliances and apparatus for use in connection with the establishment, operation, improvement and extension of the transportation system; (d) purchase, or take by eminent domain under said chapter seventy-nine land, and erect thereon such building or buildings or other structures or purchase or lease such buildings or other structures, as may be necessary or requisite in connection with the operation, improvement and extension of the transportation system; (e) submit to arbitration under chapter two hundred and fifty-one of the General Laws all claims for acquisitions in whole or in part. Provided, that except as authorized by this act no rapid transit extension or surface street railway line more than one thousand feet in length shall be constructed, and no new contract for the use or operation or lease of any subways, elevated or surface street railway lines in addition to those in force on the effective date hereof shall be entered into, unless authorized by the general court. The trustees shall manage and operate as part of the transportation system such other property or properties as may be acquired by them under the authority of this act, and shall have and exercise all franchises of, and powers conferred by general or special laws over such property or properties so acquired so far as applicable and not inconsistent with this act.

BOSTON ELEVATED RAILWAY

Section 12. As of the effective date of this act, the trustees referred to in section three of this act, shall succeed to the offices of the board of public trustees of the Boston Elevated Railway created by the provisions of chapter one hundred and fifty-nine of the acts of nineteen hundred and eighteen, and acts in amendment thereof and in addition thereto, and shall act in their stead, subject to all exist-

ing laws applicable to said Company, or the public trustees thereof, and not inconsistent herewith, and thereupon the said board of public trustees of the Boston Elevated Railway shall be abolished. As soon as may be after the effective date of this act, the trustees of the authority shall effect and complete public ownership of the Boston Elevated Railway Company by purchasing the whole assets, property and franchises of said company, in accordance with the provisions of said chapter one hundred and fifty-nine and acts in amendment thereof and in addition thereto. All assets, property and franchises of said railway company shall thereupon become assets, property and franchises of the authority and all liabilities and debts of said railway company, including its bonds, notes and other evidences of indebtedness, shall be assumed by and become liabilities and debts of the authority. Thereafter, on such date as the trustees of the authority may by vote determine, the Boston Elevated Railway Company shall be dissolved by vote of said trustees and a certificate of the vote shall forthwith be filed with the state secretary, subject to the provisions of sections fifty-one and fifty-two of chapter one hundred and fifty-five of the General Laws.

RESTRICTION OF COMPETITION

Section 13. On and after the effective date of this act no common carrier of passengers for hire, except interstate carriers, carriers engaged in ordinary cab service, and except through service originating outside the district, shall conduct such business within the area of the district except with the written permission of the trustees and then only upon such terms and conditions with reference to route, manner of operation, and taking on and letting off of passengers as the trustees may from time to time determine, to the end that there may be an adequate, integrated and efficient system of rapid transit of passengers within the area of said District coordinated with similar services outside the area of said District.

LICENSES

Section 14. Except as to such services which are exempted from the provisions of section thirteen of this act the trustees shall be the sole authority to issue, suspend and revoke licenses and certificates of public convenience and necessity to operate any vehicle for the carriage of passengers for hire within the proposed transit district. The provisions of chapter one hundred and fifty-nine A of the General Laws, as amended, shall, in all other particulars, apply to carriers of passengers for hire.

PROTECTION OF PERSONNEL

Section 15. As of the date of acquisition of the assets, property and franchises, or part thereof, of any carrier under any provision of this act, such employees as may be determined by the trustees to be necessary for rapid transit operations shall be transferred to and become employees of the authority, and if any question arises as to whether any person is so transferred it shall be decided by the trustees. No such employee, without his consent, shall by reason of such transfer be removed, lowered in rank or compensation or suspended, except for just cause and for reasons specifically given him in writing twenty-four hours after such removal, suspension, transfer or lowering in rank or compensation; nor shall any such employee, by reason of such transfer, without his consent, be in any worse position in respect to workmen's compensation, pension, superannuation, sickness or any other benefits or allowances, to himself, his widow, family or personal representatives, than he enjoyed under the person, firm or corporation under whom he previously held his employment, provided, that the trustees may abolish any office or post of any existing executive officer if in the opinion of the trustees the same is an unreasonable addition to the staff of the authority.

CIVIL SERVICE AND PENSION LAWS INAPPLICABLE

Section 16. Chapter thirty-one of the general laws and the rules and regulations made thereunder shall not apply to the appointment or removal of any officer, agent or employee of the authority, nor shall chapter thirty-two of the general laws apply to any retirement or pension system of the authority.

FINANCING BY BORROWING

Section 17. The trustees of the Boston Metropolitan District may from time to time, if they deem it in the interest of the authority so to do, at the request of the trustees, and shall, if ordered by the department, purchase bonds of the authority hereinafter issued, reissued or assumed under the provisions of this act and for the purpose of paying or refunding bonds, coupon notes or other evidences of indebtedness for which the authority is responsible under this act, and shall, in the case of each such purchase, procure the funds necessary therefor by the issue of notes or bonds of said Boston Metropolitan District under and in the manner provided in section ten of chapter three hundred and eighty-three of the acts of nineteen hundred and twenty-nine, as amended, and the provisions of said chapter shall apply thereto in the same manner and to the same extent as if such notes or bonds of said Boston Metropolitan District were specifically authorized in said chapter three hundred and eighty-three; provided, that any such notes or bonds of said Boston Metropolitan District so issued shall be for such terms not less than years, except as hereinafter provided, nor more than years from the date thereof, and shall bear interest payable semi-annually at such rates, as said trustees of said Boston Metropolitan District, subject to the approval of the department, shall from time to time determine. Said bonds of said Boston Metropolitan District may be issued on either the sinking fund or serial payment plan, and if issued on the serial payment plan such portions of each issue of said bonds as the trustees of said Boston Metropolitan District, subject to like approval, may determine, may be for terms of less than years, and the said trustees of said Boston Metropolitan District shall endeavor so to arrange the maturities of all bonds issued on the serial payment plan that the bonds maturing each year other than the final year will be met by the amounts available from interest upon the bonds purchased from the authority. All amounts received by said Boston Metropolitan District from said interest shall be applied in payment of interest and principal of the bonds of the Boston Metropolitan District issued hereunder as and when due, and any balance shall be accumulated in a sinking fund to be used for such purpose as and when required. All amounts received by said Boston Metropolitan District in payment of each such bond issue of the authority shall be applied in payment of the bonds of the Boston Metropolitan District issued hereunder to provide funds for the purchase of such bond issue and the balance shall be accumulated in a general sinking fund for any bonds of said Boston Metropolitan District then outstanding. Said sinking funds shall be invested as provided in section eleven of said chapter three hundred and eighty-three.

Section 18. Each bond issue of the authority so purchased shall be for the same term as the term of the last maturing bonds of the Boston Metropolitan District issued to provide funds for the purchase of such bond issue of the authority, and shall bear interest payable semi-annually at a rate of two per cent higher than the rate payable upon said bonds of said Boston Metropolitan District. In the event that said bonds of said Boston Metropolitan District are sold at a premium above or a discount below par, the bond issue of the authority purchased with the proceeds thereof shall be purchased by the said Boston Metropolitan District at the same premium above or discount below par. Said bonds of the authority, both as to income and principal, are hereby made exempt from all taxes levied under authority of the Commonwealth while held by said Boston Metropolitan District without further permission of the general court, and shall contain a recital to that effect. The proceeds of said bonds of the authority shall be used by it only for the purposes for which they were issued.

ENTRY ON LAND

Section 19. In the making of preliminary investigations, surveys, and plans for subways, rapid transit routes or other work, as the trustees may deem expedient, their employees or other persons acting with their permission may enter upon any lands or places without being liable in trespass, in order to make surveys and investigations, and may place and maintain marks and monuments thereon, and make borings and excavations and do all other acts necessary for such investigations and surveys and the preparation of plans and estimates therefor; provided, that compensation shall be recoverable from the authority under chapter seventy-nine of the general laws for any actual damages caused by such acts.



WORKING FUND

Section 20. To enable the authority to perform the duties and to meet the obligations imposed upon it by this act the sum of dollars is hereby appropriated which shall be set up as a surplus and reserve account and may be used by the trustees for payment of operating expenses as well as for additions and improvements to the properties of the authority. Said account shall be maintained, as nearly as the income of the authority will permit, in the amount of dollars. As of the last day of December in any year if the income of the authority is in excess of the amount required to keep said account at the maximum level of dollars, then the surplus shall be paid into the state treasury to reimburse the commonwealth for any amounts which it may have paid to the authority under the provisions thereof, to be distributed among the cities and towns in the district, in proportion to the amounts which they have respectively been assessed as hereinafter provided.

PAYMENTS OF DEFICITS

Section 21. Whenever the income of the authority together with the amount in the surplus and reserve account is insufficient to meet the cost of the service as herein defined, as of the last day of December in any year, it shall be the duty of the trustees to notify the state treasurer of the amount of the deficiency and the Commonwealth shall thereupon pay over to the authority the amount of such deficiency and the amount needed to restore as of said date the surplus and reserve account to the maximum herein established. Pending such payments it shall be the duty of the trustees to borrow such amounts of money as may be necessary to enable them to make all payments as they become due.

In order to meet any payment required of the Commonwealth under the provisions of this section the state treasurer may borrow at any time, in anticipation of the assessments to be levied upon the cities and towns in the district, such sums of money as may be necessary to make said payments, and he shall repay any sums so borrowed as soon after said assessments are paid as is expedient.

Section 22. In case the Commonwealth shall be called upon to pay to the trustees or the authority any amount under the provisions of that Act, such amount with interest and other charges, if any, incurred in borrowing money for the purpose shall be assessed upon the cities and towns in the district by an addition to the state tax next thereafter assessed in proportion to the number of persons in said cities and towns using the service of the authority at the time of said payment, said proportion to be determined and reported to the state treasurer by the trustees from computations made in their discretion for the purpose.



APPENDIX II

AN ACT ENLARGING THE BOSTON METROPOLITAN DISTRICT AND EXTENDING THE POWERS AND DUTIES OF THE TRUSTEES THEREOF

Chapter three hundred and eighty-three of the acts of nineteen hundred and twenty-nine, as amended, is hereby further amended by striking out section one and inserting in place thereof the following new section.

Section 1. The territory within and the inhabitants of the following cities and towns, to wit: Arlington, Belmont, Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, Milton, Newton, Revere, Somerville and Watertown, shall constitute a district or incorporated municipality, and for the purposes of this act are made a body politic and corporate under the name of the Boston Metropolitan District, hereinafter called the district, with power to take and hold property, sue and be



